Administration Report of the Public Works Department in the Bombay Presidency for the Year 1931-32

With a detailed review of the Civil and Military Works

LIBRARY OF THE BOMBAY BRANCH ROYAL ASIATIC SOCIETY

[Price—Rs. 2 As. 9 or 4s. 9d.]

BOMBAY
PRINTED AT THE GOVERNMENT CENTRAL PRESS
1933

Obtainable from the Superintendent, Government Printing and Stationery, Bombay, or through the High Commissioner for India, India House, Aldwych, London, W.C.2, or through any recognized Bookseller

gitized with financial assistance from th
Government of Maharashtra
on 22 July, 2017

CONTENTS

	Pages
I—DIRECTION	1
II—ADMINISTRATIVE MEASURES	1
III—TERRITORIAL CHANGES	2–5
IV—DETAILED REVIEW	5

Important works carried out under the following heads :—

A—Civil Buildings.

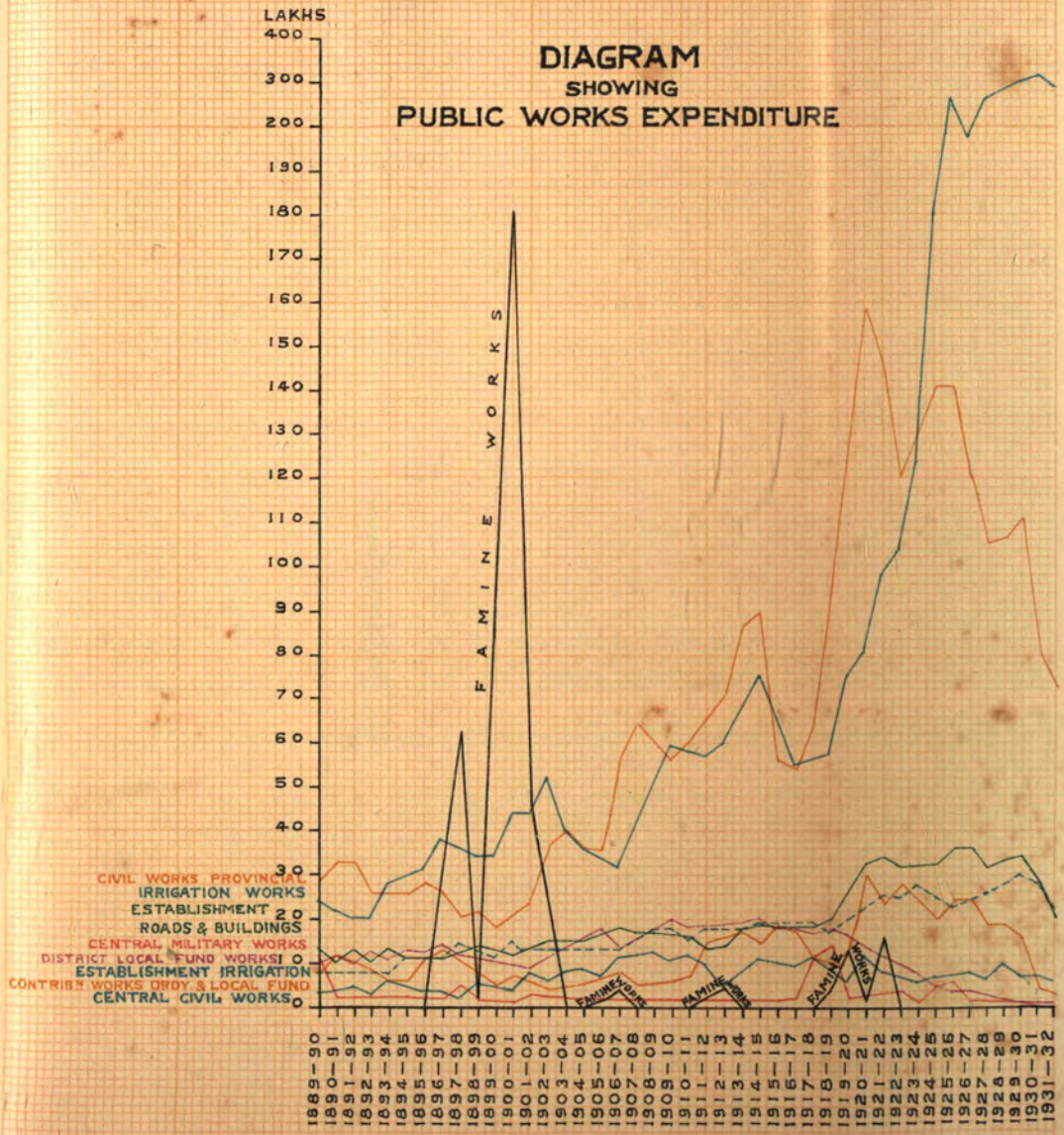
Central Services—Customs, Salt, Opium, Police, Ecclesiastical, Political, Scientific Department, Educational, Medical, Public Health, Mint, Currency, Miscellaneous, Post Offices, Telegraphs and Archaeological ..	6–8
Military Works	8
Provincial Services—Land Revenue, Excise, Forests, Registration, General Administration, Residences for Heads of Provinces, Provincial Legislative Councils, Secretariat and Head Quarters Establishment including Local Fund Audit Establishment, Commissioners and District Officers, Administration of Justice, Jails and Convict Settlements, Police, Educational, Medical, Agriculture, Stationery and Printing, Civil Works, Public Health and Miscellaneous Departments	8–11
Central Workshops at Dapuri	11–12
B—Architectural	12
C—Electrical	12–13
D—Communications	13–17
Arboriculture	17
E—Miscellaneous	17
Public Health, Water Supply, Drainage and Boring	17–18
F—Technical Papers	18–19
G—Railways	19
H—Development Schemes	20–21

APPENDICES.

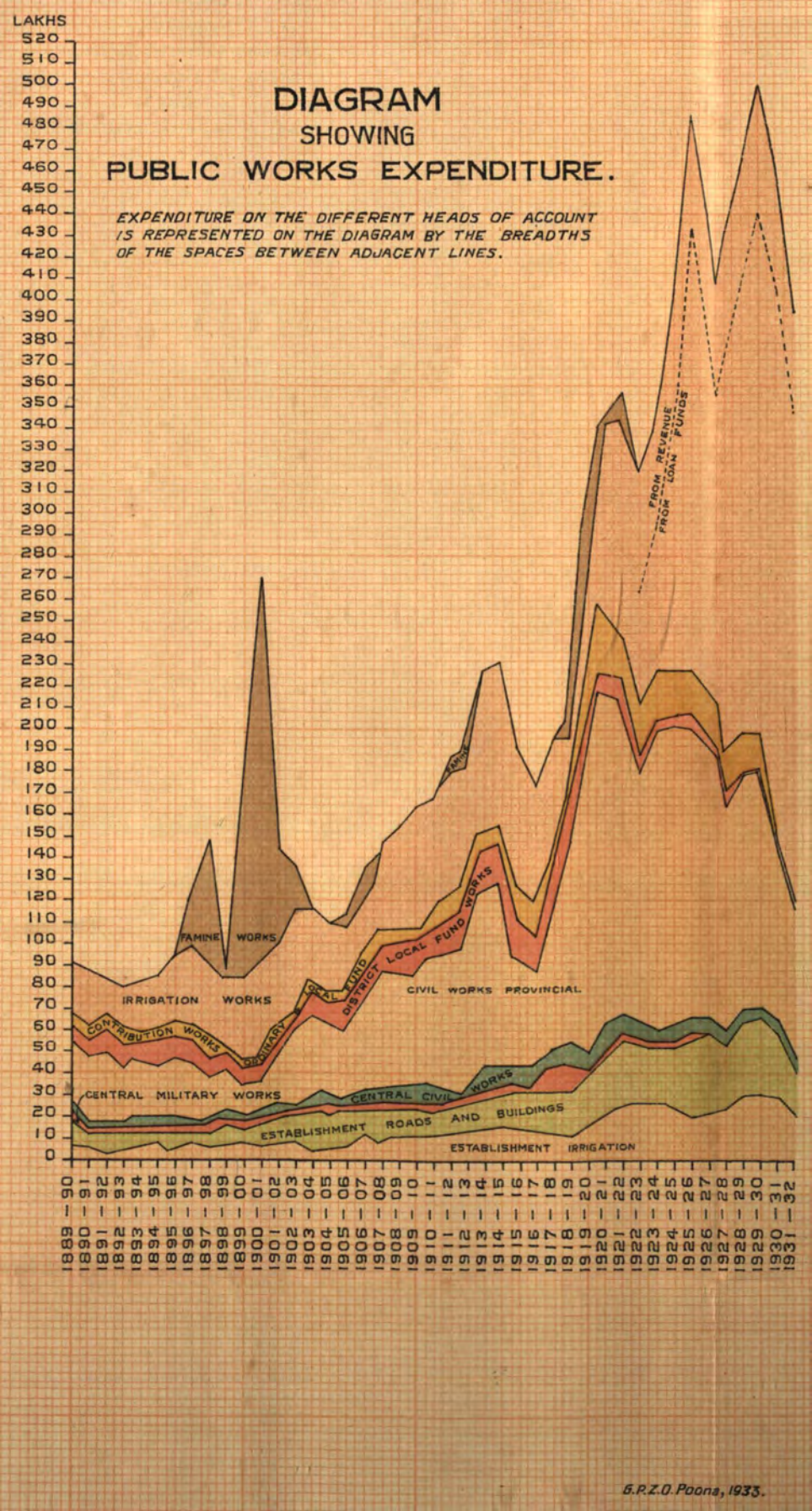
I—Statement showing expenditure on Civil and Military Works ..	22
II—Statement of roads not within Municipal boundaries maintained by the Public Works and Local Authorities	24
III—Statement showing the expenditure on Provincial Buildings and Roads in the Presidency proper and Sind from 1921–22 to 1931–32	30
IV—Statement showing the expenditure on District Local Board Roads in the Presidency proper and Sind (Original Works and Repairs) from the year 1921–22 to 1931–32	34
V—Statement showing expenditure on establishment in Roads and Buildings and the Irrigation Branches of the Public Works Department from the year 1921–22 to 1931–32 and percentage on the total outlay on works and repairs during the period in both the branches	36
VI—List of the members of the Sanitary Committee, Back Bay Reclamation, for the year 1931–32	38
VII—List of members of the Standing Advisory Committee for the Back Bay Reclamation Scheme, for the year 1931-32	39

LIST OF ILLUSTRATIONS.

	Facing Page
Two diagrams showing Public Works expenditure during the period from 1889–90 to 1931–32	1
Diagram showing expenditure on Irrigation works in the Public Works Department from Loan funds, Revenue and Contribution during the period from 1922–23 to 1931–32 ..	1
Diagram showing expenditure on Provincial Buildings and Roads in the Presidency proper and Sind during the period from 1921–22 to 1931–32	1
Diagram showing the expenditure on District Local Board roads in the Presidency proper and Sind (Original works and repairs) during the period from 1921–22 to 1931–32 ..	1
Diagram showing expenditure on Establishment in the Roads and Buildings and Irrigation Branches of the Public Works Department and Percentages to the total outlay on Works and Repairs during the period from 1921–22 to 1931–32 ..	1
Diagram showing the progress of Electrical Development in terms of Kilowatts installed from 1905 to date by various supply companies in the Bombay Presidency ..	1
Photographs—	
The New Post Office at Ahmedabad	8
Collector's Kacheri—Dadu	8
Masonry Bridge over the Muchkundi River near Waked in mile 20 of Pali-Phonda Road	14
Bridge over the River Tapti at Gidhad site on Bombay-Agra Road—(View showing details of abutment, return walls etc. on Agra side)	14
Bridge over the River Tapti at Gidhad site on Bombay-Agra Road—(General Panoramic view of the whole Bridge) ..	14
Poona Drainage Improvement Scheme—Low Level Pumping Station—Sump Tank Bed—(View of Baffle Wall and Float Switch Gears)	18
Improvements to Kirkee Water Supply (Elevated Steel Reservoir)	18
Public Works Department Division Map.	



G.P.Z.O. Poona, 1933.



G.P.Z.O. Poona, 1933.

DIAGRAM

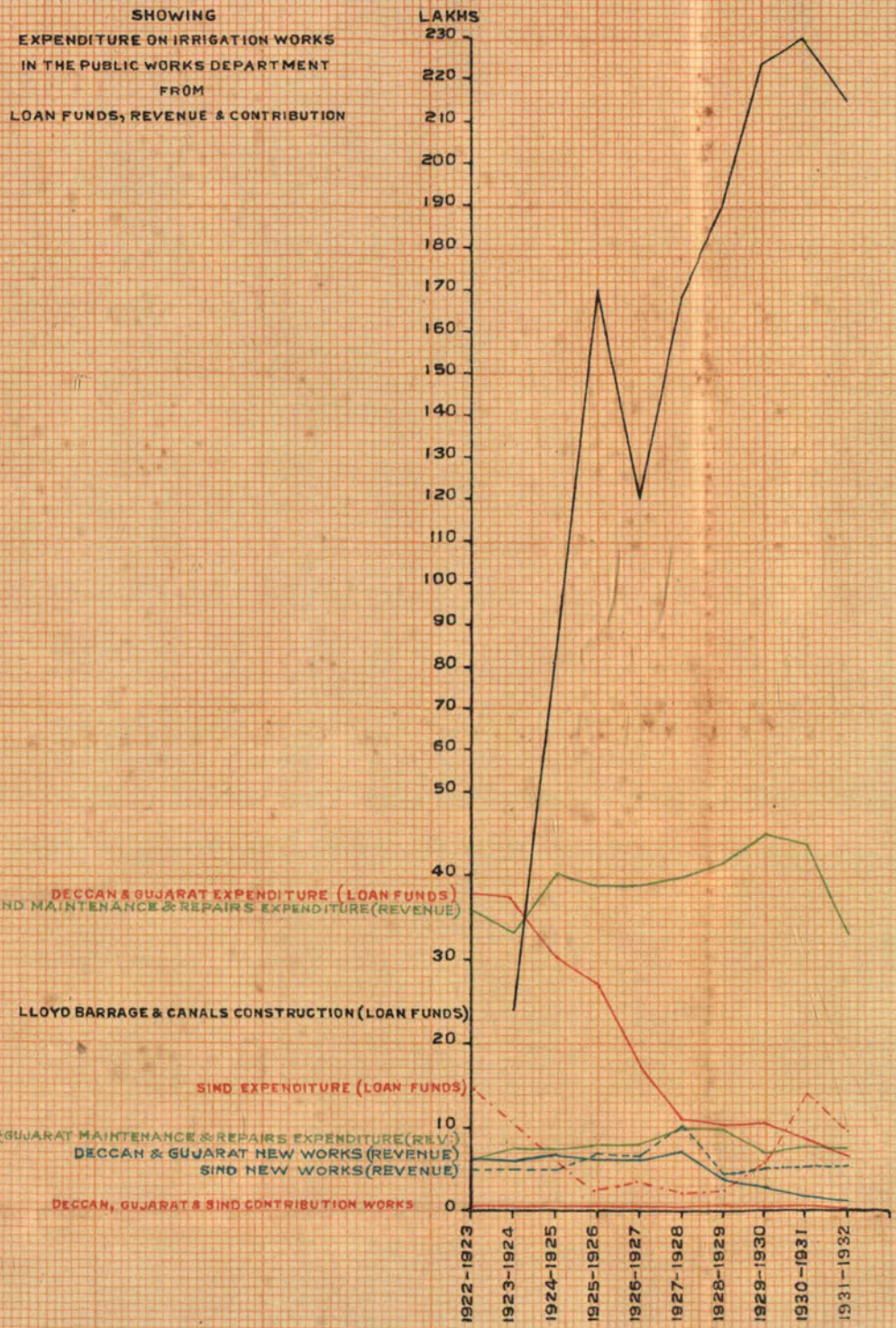
SHOWING

EXPENDITURE ON IRRIGATION WORKS

IN THE PUBLIC WORKS DEPARTMENT

FROM

LOAN FUNDS, REVENUE & CONTRIBUTION

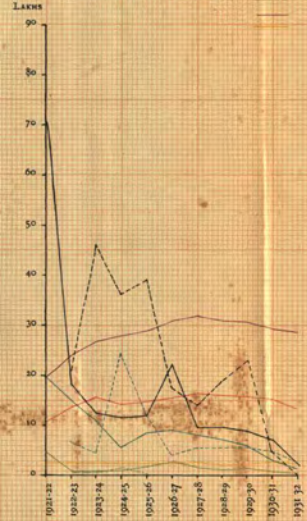


G.P.Z.O. Poona, 1933.

DIAGRAM SHOWING EXPENDITURE ON PROVINCIAL BUILDINGS AND ROADS IN THE PRESIDENCY PROPER AND SIND.

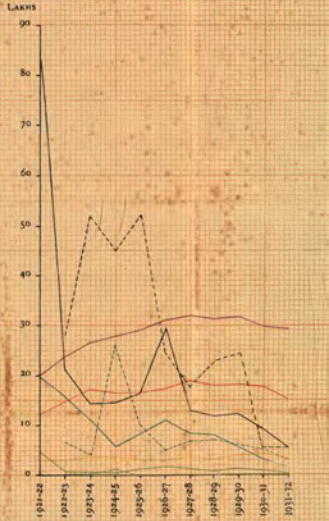
Represents 41 C.W. Expenditure on Buildings for Original Works.
" 60 " " " " " " Maintenance.
" 41 " " Metalled Provincial Roads for Original Works
" 60 " " " " " " Maintenance.
" 41 " " Unmetalled " " " "
" 60 " " " " " " "
" 41 " " Metalled " " " Maintenance.
" 47 " " Unmetalled " " " "

PRESIDENCY PROPER.



SIND.

DIAGRAM SHOWING TOTAL EXPENDITURE IN THE PRESIDENCY PROPER AND SIND.



G.P.I.O. Press, 1933.

DIAGRAM SHOWING THE EXPENDITURE ON D.L.B. ROADS IN THE PRESIDENCY PROPER AND SIND.

(ORIGINAL WORKS AND REPAIRS)

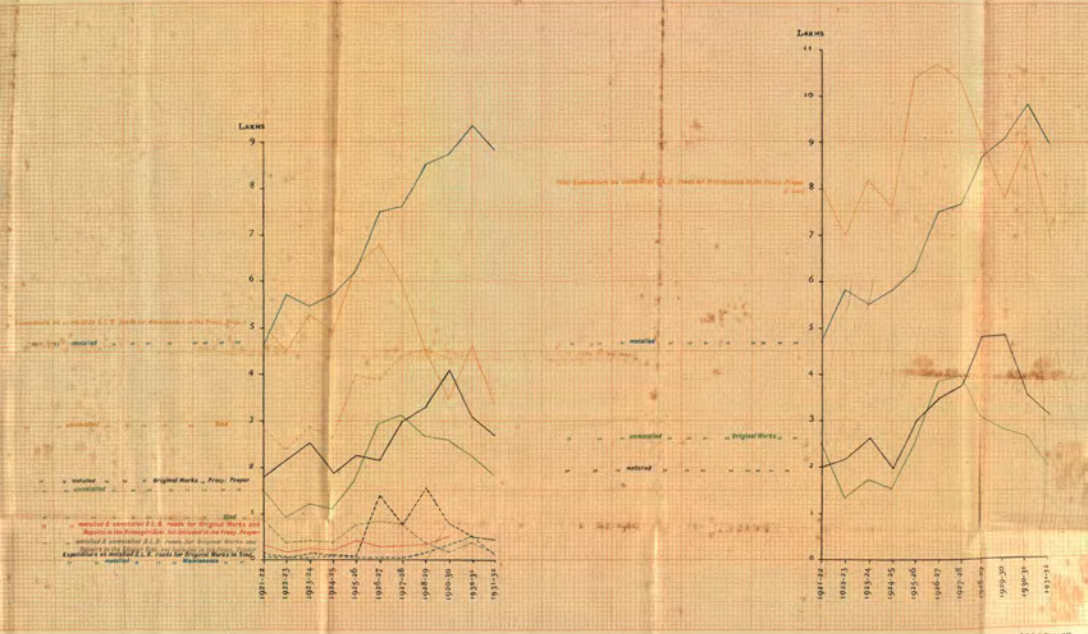
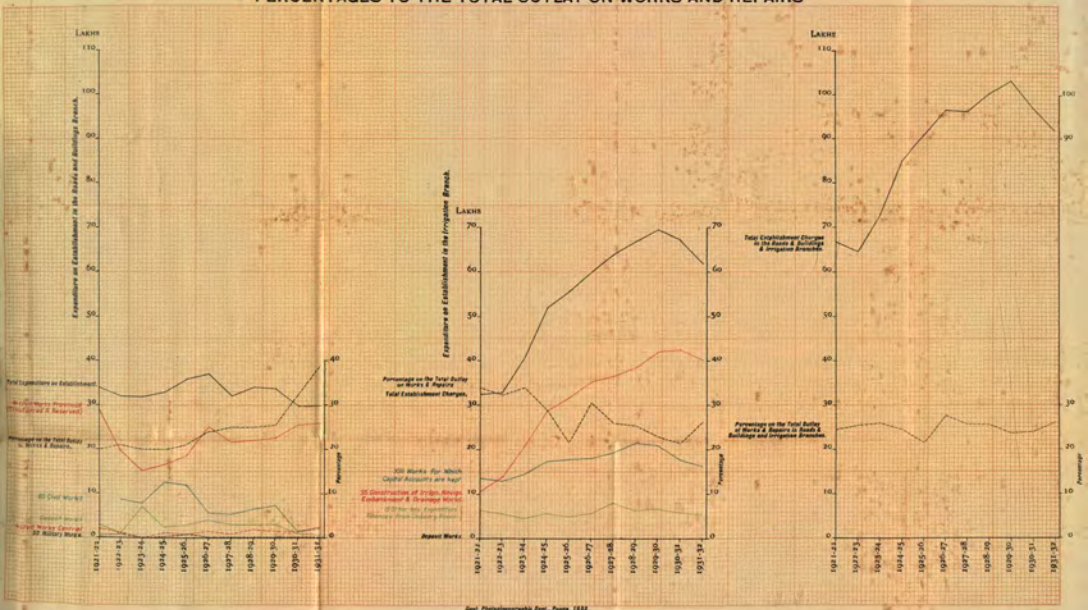


DIAGRAM SHOWING EXPENDITURE
ON ESTABLISHMENT
IN THE
ROADS & BUILDINGS & IRRIGATION BRANCHES
OF THE
PUBLIC WORKS DEPARTMENT
AND
PERCENTAGES TO THE TOTAL OUTLAY ON WORKS AND REPAIRS

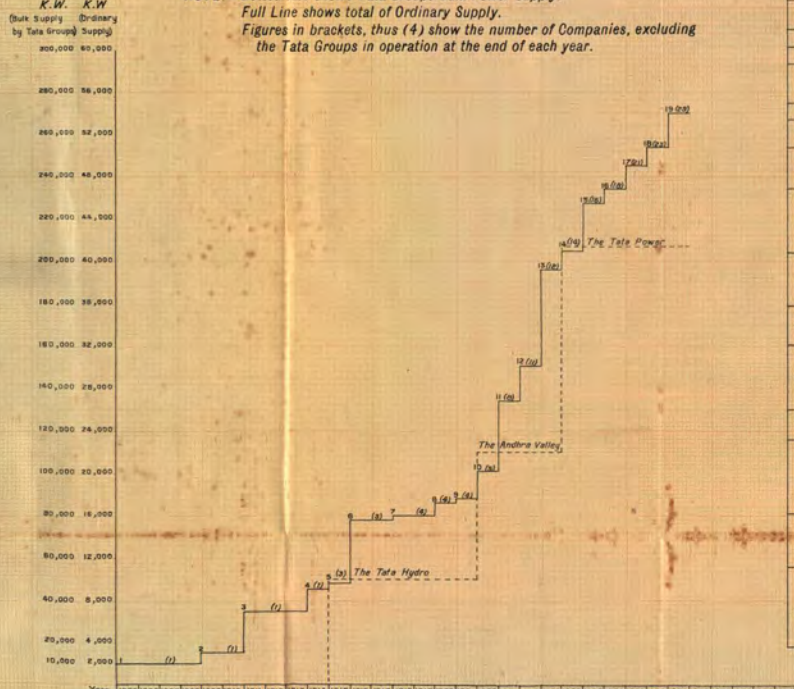


Govt. Photozincographic Dept., Poona, 1932.

GRAPH

SHOWING THE PROGRESS OF ELECTRICAL DEVELOPMENT IN TERMS OF KILOWATTS INSTALLED FROM 1905 TO DATE BY VARIOUS SUPPLY COMPANIES IN THE BOMBAY PRESIDENCY

NOTE:—Dotted line shows Tata Groups Bulk Power Supply.
Full Line shows total of Ordinary Supply.
Figures in brackets, thus (4) show the number of Companies, excluding the Tata Groups in operation at the end of each year.



INCREASE DUE TO		
Ref. No.	Increase of load old Supply Co.	Start of New Supply Co.
1.		Bombay Et. S.T.
2	Bombay Et. S.T.	
3.	Bombay Et. S.T.	
4.	Bombay Et. S.T.	
5.		Ahmedabad Karachi
6.	Bombay Et. S.T.	
7.	Ahmedabad	Poona
8.	Ahmedabad Karachi Poona	
9.	Karachi	
10.	Bombay Et. S.T. Poona	Surat
11.	Bombay Et. S.T. Ahmedabad Poona	Godhra Hyderabad Sukkur
12.	Ahmedabad Karachi Poona Hyderabad Sukkur	Broach Gadag & Betigeri Shikarpur
13.	Bombay Et. S.T. Ahmedabad Poona Hyderabad	Sholapur
14.	Poona Sukkur Broach	Rander Aden
15.	Bombay Et. S.T. Poona Surat Hyderabad Sukkur	Bhiwandi Hubli
16.	Karachi Surat	Bombay Suburn. Thana
17.	Bombay Et. S.T. Surat Hyderabad Broach Shikarpur Bombay Suburn.	Lonavla-Khandala Kalyan Bijapur
18.	Poona Sukkur Rander Bombay Suburn.	Panvel Dharwar
19.	Bombay Et. S.T. Bombay Suburn. Bhiwandi Ahmedabad Godhra Panvel	Pandharpur Panchagani Matheran Larkana Jalgaon Nasik-Deolali

13-10-37.

Electrical Engineer to Government,
P. W. D. Bombay.

G.P.E.C. Poona, 1937.

PUBLIC WORKS DEPARTMENT.

BOMBAY PRESIDENCY.

ADMINISTRATION REPORT WITH A DETAILED REVIEW OF THE CIVIL AND MILITARY WORKS FOR 1931-32.

I—DIRECTION.

During the year under report Mr. D. R. H. Browne, O.B.E., A.K.C. (Lon.), M.I.E. (Ind.), I.S.E., continued as Chief Engineer (Roads and Buildings) and Secretary to Government, and Mr. P. L. Bowers, C.I.E., M.C., A.M.Inst.C.E., I.S.E., as Chief Engineer (Irrigation) and Joint Secretary to Government till 22nd November 1931. Mr. Browne then proceeded on leave for 28 months, preparatory to retirement, and Mr. C. M. Lane, I.S.E., on return from leave, was appointed Chief Engineer (Irrigation) and Secretary to Government, Mr. Bowers officiating as Chief Engineer (Roads and Buildings) and Joint Secretary to Government.

II—ADMINISTRATIVE MEASURES.

Establishment.

On the retirement of Mr. R. T. Harrison, C.S.I., I.S.E., Chief Engineer, on the 8th July 1931, Mr. D. R. H. Browne, O.B.E., A.K.C. (Lon.), M.I.E. (Ind.), I.S.E., was promoted Chief Engineer permanent and Mr. C. M. Lane, I.S.E., became Superintending Engineer permanent and Chief Engineer provisionally permanent and Mr. C. O. Lowsley, I.S.E., Superintending Engineer permanent and Chief Engineer acting. Owing to the promotion of Mr. Lowsley to the permanent rank of Superintending Engineer from 8th July 1931, Mr. S. C. Mould, B.A. (Cantab.), I.S.E., was appointed Superintending Engineer provisionally permanent. Later on in the vacancy caused by the retirement of Mr. D. R. Satarawala, B.A., L.C.E., I.S.E., Superintending Engineer, from 6th August 1931, Mr. Mould became Superintending Engineer permanent and Mr. R. Haines, I.S.E., Superintending Engineer, provisionally permanent, and on the retirement of Mr. C. B. Pooley, C.I.E., I.S.E., on 18th December 1931, Mr. Haines was promoted Superintending Engineer permanent and Mr. A. B. Spencer, L.C.E., I.S.E., Superintending Engineer provisionally permanent.

Four appointments were made to the India recruited Branch of the Indian Service of Engineers—three on the results of the competitive examination held by the Public Service Commission and one in the promoted section. No appointment was made to the Europe recruited Branch of the service during the year.

Three graduates from the College of Engineering, Poona, and the N. E. D. Civil Engineering College, Karachi, were appointed as candidates to the Bombay Service of Engineers and 9 promotions were also made to that service from permanent Supervisors and temporary Engineers.

III—TERRITORIAL CHANGES.

The continuance of the following Divisions was sanctioned up to the dates mentioned against each :—

Indus River Gauging Division	26th October 1931 on which date it was amalgamated with the Research Division of the Lloyd Barrage and Canals Construction Administration.
Malsiras Division	.. 28th February 1933.
Mutha Canals Division	.. 31st March 1933.

The temporary Executive charge of the Sanitary Project Office, under the Superintending Engineer, Public Health, Bombay, was amalgamated with that of the Poona Drainage Construction Division and the combined Division, designated the Public Health Works Division, was formed on a temporary basis for a period of two years with effect from the 1st March 1931.

On the Lloyd Barrage and Canals Construction Scheme the Rohri Canal No. VI Division was opened with effect from the 26th October 1931. The Communications Division in the Lloyd Barrage Circle was amalgamated with the Stores and Quarries Division in that Circle with effect from the 1st August 1931 and the combined Division was named the Transport and Supply Division.

The Sind Public Works Department and the Lloyd Barrage and Canals Construction Administrations were amalgamated with effect from December 1931. In order to facilitate the progress of establishing post-barrage conditions the following orders were issued as a provisional measure :—

(*i*) that the whole Public Works Department in Sind should be under one Chief Engineer who will be the Chief Engineer in Sind;

(*ii*) that there should be a second Chief Engineer designated as the Joint Chief Engineer in Sind;

(*iii*) that the marginally* noted six Circles should be replaced by the following five Circles :—

1. Rohri Canal Circle,
2. Northern Sind Circle,
3. Western Sind Circle,
4. Eastern Sind Circle,
5. Southern Sind Circle;

*1. Rohri Canal Circle.
2. North Western Circle.
3. Western Circle.
4. Eastern Nara Circle.
5. Indus Right Bank Circle.
6. Indus Left Bank Circle.

(*iv*) that the headquarters of the two Chief Engineers and of the five Superintending Engineers should be at Karachi;

(*v*) that the existing Lloyd Barrage Circle of the Lloyd Barrage and Canals Construction Project with its five Divisions, viz. Right Works Division, Left Works Division, Transport and Supply Division, River Works Division and Power Supply Division, and also the Draglines Division should continue until their necessity ceases or till 30th June 1932 whichever is earlier ;

(*vi*) that the following existing seven Divisions of the pre-Barrage charges in Sind, modified territorially where necessary, should be retained :—

The Begari Canals Division ..
The Shikarpur Canals Division. } In the Northern Sind Circle,

The Fuleli Canals Division ..
The Karachi Canals Division ..
The Karachi Buildings Division. } In the Southern Sind Circle,

The Northern Jamrao Division.
The Southern Jamrao Division. } In the Eastern Sind Circle ;

(*vii*) that the Research Division of the Lloyd Barrage and Canals Construction, amalgamated with the pre-Barrage Indus River Gauging Division, should be retained and renamed the Development and Research Division ;

(*viii*) that the remaining three pre-Barrage Sind charges (viz. the Western Nara Division, the Nasrat Canals Division and the Hyderabad Canals Division) and the existing 15 Lloyd Barrage and Canals Construction Works Divisions (as noted in margin*) should be suitably amalgamated and modified territorially to form the following fourteen Irrigation Divisions with headquarters as noted against each :—

*1. Rohri Canal No. I.
2. Rohri Canal No. II.
3. Rohri Canal No. III.
4. Rohri Canal No. IV.
5. Rohri Canal No. V.
6. Warah Branch.
7. Western Head.
8. Khirtar Head.
9. Rice Canals.
10. Northern Dadu Canal.
11. Southern Dadu Canal.
12. Manchar Drainage.
13. Khipro Canal.
14. Mithrao Remodelling.
15. Nara Supply.

	Headquarters.	
(1) Khirtar Division	.. Shahdadkot	In the Northern Sind Circle.
(2) North Western Canal Division.	Sukkur	
(3) Warah Division	.. Larkana	In the Western Sind Circle.
(4) Rice Canals Division	.. Larkana	
(5) Northern Dadu Division	.. Larkana	
(6) Southern Dadu Division	.. Dadu	
(7) No. 1 Division, Rohri Canal.	Sukkur	In the Rohri Canal Circle.
(8) No. 2 Division, Rohri Canal.	Nawabshah	
(9) No. 3 Division, Rohri Canal.	Nawabshah	
(10) No. 4 Division, Rohri Canal.	Hyderabad	

Headquarters—contd.

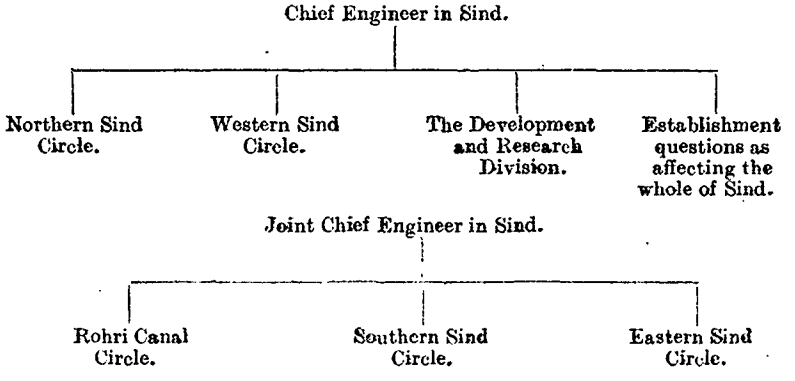
(11) No. 5 Division, Rohri Canal.	Hyderabad	In the Southern Sind Circle.
(12) No. 6 Division, Rohri Canal.	Hyderabad	
(13) Mithrao Division	.. Mirpurkhas	In the Eastern Sind Circle.
(14) Khipro Division	.. Mirpurkhas	

The Manchar Drainage Division and the Nara Supply Division will be retained so long as they may be required for construction purposes ;

(*ix*) that in addition to the above charges one Barrage Division with headquarters at Sukkur should also be formed in the Northern Sind Circle when the Lloyd Barrage Circle with its five Divisions is abolished ;

(*x*) the post of Personal Assistant to the Chief Engineer, Lloyd Barrage and Canals Construction, held by an officer of the Indian Service of Engineers should be retained for so long as necessary.

(*xi*) that there should be a joint office for the Chief Engineer in Sind and the Joint Chief Engineer in Sind. The Joint Chief Engineer will be subordinate to the Chief Engineer in Sind. The division of work between the two Chief Engineers should be as under :—


Chief Engineer in Sind.
Northern Sind Circle.
Western Sind Circle.
The Development and Research Division.
Establishment questions as affecting the whole of Sind.
Joint Chief Engineer in Sind.
Rohri Canal Circle.
Southern Sind Circle.
Eastern Sind Circle.

The Warah Branch Division is placed under the control of the Superintending Engineer, Northern Sind Circle, as a temporary measure.

The continuance of the following Sub-divisions was sanctioned up to the dates mentioned against each :—

Karachi Canals Division.

Special Project Sub-division .. 15th October 1931.

Khipro Canal Division.

Desert Sub-division .. 8th October 1931.

Khandesh Division.

Tapti Bridge Sub-division .. 30th June 1932.

Malsiras Division.

Malsiras, Velapur and Mohod Sub-divisions.	28th February 1933.

Mutha Canals Division.

Mutha Canals, Minor Tanks, Bhatgar and Phaltan Sub-divisions.	31st March 1933.

Nateputa Sub-division in the Malsiras Division was closed and Velapur Sub-division was opened with effect from 1st September 1931.

Indus River Survey Sub-division was opened with effect from the 8th October 1931 in the Indus River Gauging Division.

The Jacobabad and Khairo Garhi Sub-divisions of the Begari Canals Division were reconstituted and renamed as Upper Begari Sub-division and Lower Begari Sub-division respectively.

Mutha Project Sub-division in the Mutha Canals Division was closed with effect from the 17th September 1931 and the work was transferred to the Mutha Canals Sub-division in the same Division.

The Temporary Back Bay Reclamation Sub-division was amalgamated with "A" Sub-division of the Presidency Division with effect from 1st November 1931. The temporary Salsette and Ambernath Water Supply Sub-division of the Thana Division was abolished and the work pertaining to it was transferred to the Public Health Branch with effect from 1st November 1931.

The Prantij Sub-division in the Ahmedabad Division was closed from 1st November 1931 by amalgamating it partly with Ahmedabad City Sub-division and partly with Hathmati and Khari Cut Canals Sub-division.

The Alibag Sub-division in the Thana Division was closed with effect from 23rd December 1931 by amalgamating it with the Panvel Sub-division in the same Division.

The Barsi Sub-division of the Sholapur Division was closed with effect from the 14th February 1932 by amalgamating it with the Sholapur Sub-division with the exception of the Wadshivne Tank and Canal, Mangi Tank, and the Taluka Buildings at Karmala and Madha which were absorbed in the Shetphal Sub-division in the Sholapur Division.

On the Lloyd Barrage and Canals Construction Scheme 114 Sub-divisions were created up to the 31st March 1932.

IV—DETAILED REVIEW.

A—Civil Buildings.

During the year under review the Roads and Buildings Branch of the Public Works Department of the Presidency executed works

involving a total expenditure of Rs. 1,17,79,911. The more important details of expenditure are given under the various heads below :—

Central Services.

Customs—		Rs.
On works		394
On repairs		44,000
	Total ..	44,394
Salt—		
On works		3,064
On repairs		1,21,414
	Total ..	1,24,478

The work of erecting the foundation and weigh bridge cabin for the weigh bridge at Kharaghoda was completed during the year under report.

Opium—

Under this head an expenditure of Rs. 66 was incurred on repairs.

Police—

Under this head an expenditure of Rs. 416 was incurred on repairs.

Ecclesiastical—		Rs.
On works		1,098
On repairs		37,011
	Total ..	38,109
Political—		
On works		21,186
On repairs		18,730
	Total ..	39,916

The following works were completed during the year under report :—

1. Constructing six stables for the horses of the Sub-Inspector and five Sowars at Satlasna in the Mahikantha Agency.
2. Quarters for the Sub-Medical Officer at Sadra, Mahikantha Agency.
3. Additions and alterations to the quarters of the Medical Officers and Senior compounder at Sadra, Mahikantha Agency.

The work of sinking 4″ pipe bore in the well in the Police Lines at Satlasna, Mahikantha Agency, was in progress.

Scientific Department Meteorological—		Rs.
On works	.. .. ..	91
On repairs	.. .. ..	3,580
	Total ..	3,671
Education—European and Anglo-Indian Education—		
On works	.. .. ..	7,210
On repairs	.. .. ..	190
	Total ..	7,400

The block of three rooms for the Vernacular Girls' School at Baroda was practically completed during the year under report.

Medical—		Rs.
On works	.. ..	19,780
On repairs	.. ..	3,611
	Total ..	23,391

Public Health—

Under this head an expenditure of Rs. 1,229 was incurred on works and Rs. 1,582 on repairs.

Mint—

Under this head an expenditure of Rs. 1,000 was incurred on works and Rs. 4,674 on repairs.

Currency—		Rs.
On works	.. .. ..	256
On repairs	.. .. ..	6,362
	Total ..	6,618
Miscellaneous Departments—		
On works	.. ..	50
On repairs	.. ..	86
	Total ..	136
**Post Offices—*		
On works	.. ..	1,54,453
On repairs	.. ..	63,817
	Total ..	2,18,270

* From the year 1921-22 expenditure on Post and Telegraph buildings has been transferred to the Accountant General, Posts and Telegraphs.

The new Post Office at Ahmedabad was completed during the year under report.

Telegraphs—	Rs.
On works	34,046
On repairs	26,578
Total ..	60,624

Quarters for certain officials in the compound of the Telegraph Office building at Bhusaval were nearly completed.

**Archæological*—	Rs.
On works	....
On repairs	34,727
Total ..	34,727
Military Works—	
On repairs	7,821

Provincial Services.

Land Revenue—	
On works	2,710
On repairs	5,595
Total ..	8,305
Excise—	
On works	10,600
On repairs	29,149
Total ..	39,749
Forests—	
On works	1,342
On repairs	6,918
Total ..	8,260

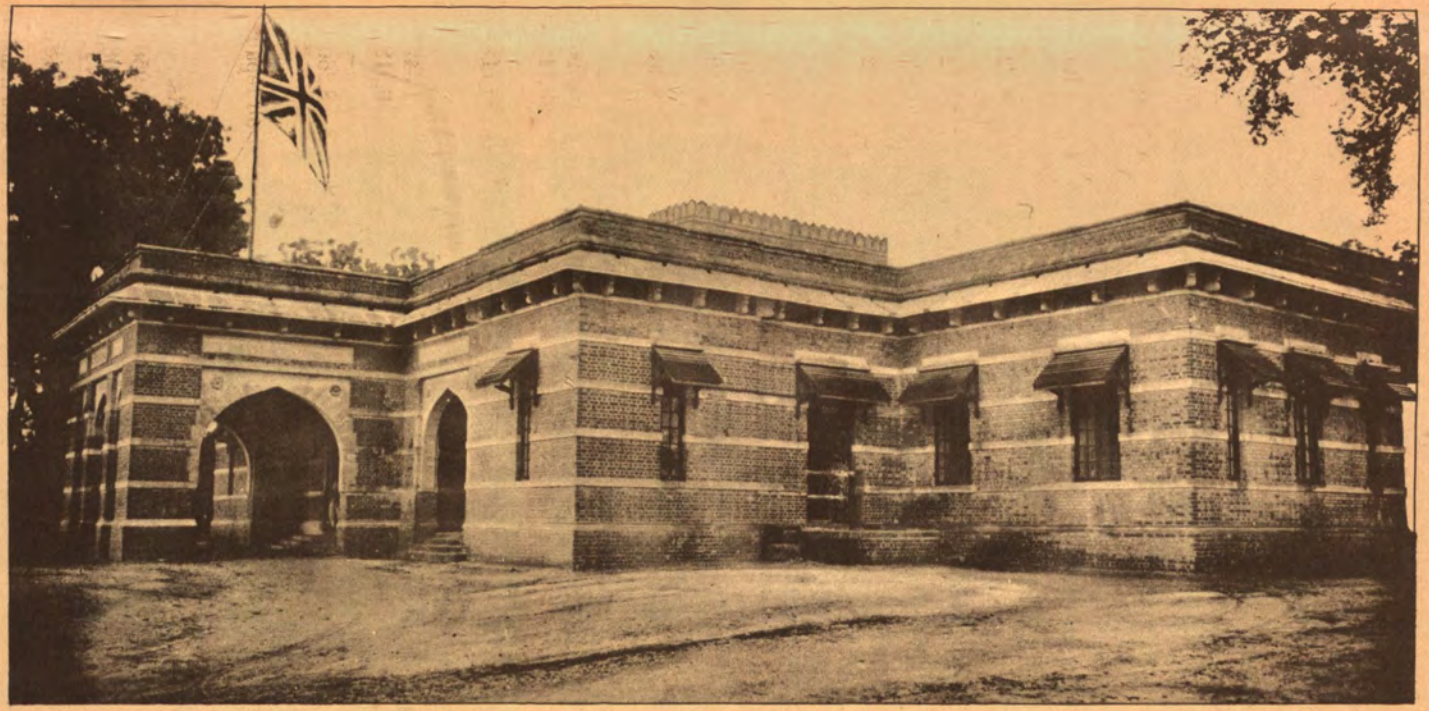
Registration—

Under this head an expenditure of Rs. 239 was incurred on repairs.

General Administration—

(1) Residences for Heads of Provinces—	Rs.
On works	24,950
On repairs	2,14,898
Total ..	2,39,848

* From the year 1921-22 the expenditure on Archæological works has been transferred to the Accountant General, Central Revenues.



G. P. Z. P. 1933.

THE NEW POST OFFICE AT AHMEDABAD.

Main Building.

Date of commencement of work ... January 1928. Date of completion ... March 1932.

Estimated cost ...	Building cost	...	Rs. 1,51,689.
	Electric Installation	...	Rs. 5,891.
Total Expenditure to end of 1931-32	Building cost	...	Rs. 1,31,189.
	Electric Installation	...	Rs. 5,699.

Plinth area .. 11,701 sft. Cubic contents ... 2,54,656 cft. Average rate per cft. ... Rs. 0-8-3.

G. P. Z. P. 1933.

COLLECTOR'S KACHERI.
DADU.
(Front View.)

Date of Photograph	... ..	26th May 1932.
Estimated cost...	... ...	Rs. 1,37.985.
Date of commencement of work	...	20th February 1931.
Date of completion	... ...	15th September 1931.
Total expenditure incurred	... ...	Rs. 1,68,332.

General Administration—contd.

	Rs.
(2) Provincial Legislative Councils—	
On works	6,132
On repairs	20,865
Total ..	26,997
(3) Secretariat and Headquarters Establishment including Local Fund Audit Establishment—	
On works	599
On repairs	12,135
Total ..	12,734
(4) Commissioners and District Officers— ..	
On works	3,62,262
On repairs	2,00,479
Total ..	5,62,741
Administration of Justice—	
On works	19,196
On repairs	1,04,035
Total ..	1,23,231
Jails and Convict Settlements—	
On works	1,28,685
On repairs	49,590
Total ..	1,78,275
Police—	
On works	4,19,004
On repairs	2,94,701
Total ..	7,13,705

Quarters for additional Police at the Headquarters Police Lines, Shahibag, Ahmedabad, were completed.

Construction of Police Station at Sukkur, with lock-ups and quarters for 2 Sub-Inspectors, 3 Head Constables and 10 Constables was completed during the year.

Educational—University—	Rs.
On works	—5,40,068
On repairs	59,052
Total ..	—4,81,016

Secondary—		Rs.
On works		10,886
On repairs		22,144
	Total ..	33,030

Primary—

An expenditure of Rs. 3,619 was incurred on repairs.

Special—		Rs.
On works		463
On repairs		18,280
	Total ..	18,743

A new building for the Textile Department in the Compound of the Victoria Jubilee Technical Institute at Matunga, Bombay, was completed.

Miscellaneous—		Rs.
On works		....
On repairs		18,568
	Total ..	18,568

Medical—		
On works		33,788
On repairs		1,58,211
	Total ..	1,91,999

Miscellaneous—		
On works		4,625
On repairs		37,930
	Total ..	42,555

Quarters for 10 servants of the Nursing Establishment, G. T. Hospital, Bombay, were completed.

Agriculture—		Rs.
On works		14,097
On repairs		23,662
	Total ..	37,759

Stationery and Printing—		
On works		— 38,854
On repairs		9,150
	Total ..	— 29,704

Civil Works—		Rs.
On works		24,000
On repairs		2,22,429
	Total ..	2,46,429

An additional block for the office of the Executive Engineer, Thana Division, was constructed during the year.

Public Health—		Rs.
On works		20,642
On repairs		32,771
	Total ..	53,413
Miscellaneous Departments—		
On works		18,067
On repairs		5,219
	Total ..	23,286

Central Workshops, Dapuri.

During the year under report the total value of the work done at the Workshops was Rs. 1,21,706 which showed a decrease of Rs. 45,360 over the last year's figure of Rs. 1,67,066. Last year the working loss on paper was Rs. 38,430 whereas during the year under report it is Rs. 56,188 due entirely to trade depression and consequent drop in manufacture.

Three sets of spare parts for turbine tube cleaner, 2 stand posts for the Indian Stores Department, Saw Buckle plates for the Forest Engineer, set of 15 gates for experimental purposes at Khadakwasla, 10 radial gates for the Superintending Engineer, Irrigation Development and Research Circle, tank for sterilizing for Assistant Controller, Dairy Farms, Southern Circle, apparatus for measuring surface tension of soil for Special Irrigation Division, iron stair-cases and railings for Low Level Pumping Station, double hinged flap valve, silt abrader for Special Irrigation Division, 30" Collars for C. I. Pipes, main entrance gates for Nasik Road Central Prison, Bevel gear arrangements for opening 15" sluice valve, bottle shaking apparatus for Special Irrigation Division, Night soil cart for Poona Government House Sub-Division, 2 ton Gantry for the Indian Radio and Cable Communication Company Limited, pipe specials for Sholapur, Matheran, Ratnagiri Water Supply and Poona Water Works, etc. pointer gauge for Special Irrigation Division, velocity rods, special fire hydrant connections of London Fire Brigade pattern, special jets for high pressure water injectors, four 21" Penstock gates, remetalling of 150 B.H.P. Oil Engine for Indian Radio and Cable Communication Company Limited, complete Brush holder for electric dynamo, 40 sets of weir supports, 9700 joints for "Everite" Asbestos Cement pipes, 18"×18" Double hinged flap valves and steam engine cylinder lubricators were made during the year.

Repairs were carried out to the Karad Pumping Engine, Post hole augers etc. for Special Irrigation Division, Lawn Mowers for Nasik Golf Club and Western India Turf Club Limited, Poona, printing machines, a Hydraulic Ram, Centrifugal pumps, and to a few boring tools of the Agricultural Department. Repairs and renewals to steam roller parts were made to the value of Rs. 39,936. Works for private firms were done to the value of Rs. 18,729 the bulk of which was the manufacture of "Everite" pipe joints of sizes from 2" to 15". During the year 33 apprentices and 3 graduates were under training. Four apprentices finished their period of training. One remained in the Shops as a tradesman and 3 left the Shops for jobs outside Dapuri.

B—Architectural.

Designs and sketch plans were made for several buildings in connection with the New Post Office at Matunga; a High Court Judge's bungalow on Cumbala Hill; Preventive Officers' quarters at Matunga, Bombay; extension to the High Court Building, Bombay; New Mercantile Marine Department Offices, Bombay; Sudama House, Ballard Estate, Bombay; extension to the Central Offices, Poona; proposed New Offices for the Commissioner, Central Division; the New Post Office at Ahmedabad; the Museum and Office Buildings at ends of Lloyd Barrage, Sukkur; and the District Local Board Office, Nawabshah.

As regards the public and institutional buildings designs were prepared for several buildings in connection with the J. J. Hospital, Bombay, the Sir C. J. Ophthalmic Hospital, Bombay, the Civil Hospital, Thana, the Ismail College at Andheri and the Nava Vidyalaya High School, Hyderabad.

Type plans were prepared for quarters suitable for Police in the Presidency proper, a single storey second class Sub-Judges' courts in Sind and Presidency proper and a single and two storey buildings in Sind and Presidency proper.

C—Electrical.

(1) *Electric Licenses.*

Electricity has continued to attract the attention of the public in an increasing degree. This great public amenity has come to be looked upon as a necessity and not as a luxury and its development in the Bombay Presidency is on a far larger scale than in the case of any other Province in India. One new license was granted in the year under report for the supply of Electricity to Amalner and several more applications were under the consideration of Government. The number of licenses, excluding those since revoked but including permissions under section 28 of the Indian Electricity Act, in operation at the beginning of the year under report was 39, while at the end of the year the number operating was 40 while the number still under consideration was 15.

(2) *Electric Works.*

Under this head the expenditure incurred was as follows :—

	Rs.
On works	64,773
On repairs	2,28,573
Total ..	2,93,346

Works of providing a new refrigerating plant at the Vaccine Institute, Belgaum, and providing electric installation in the New Post Office Building at Ahmedabad and the residential quarters attached to it were completed during the year under report.

D—COMMUNICATIONS.

Under this head the expenditure incurred was as follows :—

	Rs.
On works	16,82,614
On repairs	32,80,516
Total ..	49,63,130

The principal works completed or nearly completed during the year were :—

Constructing a culvert in place of a dilapidated slab drain in mile 51/6 of Bombay-Poona Road and improvements of bad curve and steep gradients.	Thana Division.
Improvements to the Khanapur-Yellapur and Sirsi-Kodkani Roads.	Kanara Division.
Bridges over the river Saptalingi and Jagbudi on the Hatkhamba-Poladpur Road.	Ratnagiri Division.
Bridges over the rivers Kajvi at Anjanari and Muchkundi at Waked on the Pali-Phonda Road.	
Masonry bridge over the Savitri river on the Dharamtar-Mahableshwar Road.	
Metalling the Sukkur-Shikarpur Road ..	Shikarpur Canals Division.

The principal works in progress during the year were :—

Improvements to and diversion of Kennedy Road, Poona.	Poona Division.
Improvements to road from Indapur to Sarati via Bavda.	Sholapur Division.
Improvements to Khandesh-Nizam's-Frontier Road and to the Road from Nasik to Nasik Railway Station.	Nasik Division.

Improvements to Taloda-Shahada Road, Sections I and II. Construction of roads Warsa Borzar, Section I, Chalisgaon to Malegaon and Dhadgaon-Shahada Road, Section IV. Bridge over the Tapti river at Gidhad site on the Bombay-Agra Road.	Khandesh Division.
Improvements to the Sadashivgad-Kadra Road.	Kanara Division.
Constructing a bridge over the Gad river near Aravli on the Hatkhamba-Poladpur Road and Reinforced Cement Concrete Hume pipe drains on 43 nallas on the Dharamtar-Mahableshwar Road.	Ratnagiri Division.
Brick-paving the Jacobabad-Shikarpur Road from Kot-Sultan to Shikarpur from mile 18 to 26.	Shikarpur Canals Division.

The following works were financed from the Petrol Tax Fund and the expenditure incurred on them during the year was as shown below :—

Bombay-Ahmedabad-Rajputana Road.

1. Constructing Talasari-Vapi Section (wanting links miles16½) Rs. 2,498
2. Improving Manor Varoti Section .. Rs. 46,667
3. Constructing a bridge on Dhandella Nalla .. .. Rs. 8,604
4. Providing 2″ Asphalt Macadam Surface from mile 9/7 to 13/1 on Sion .. .. Rs. 31,492

Bombay-Agra Road.

5. Providing masonry cross drainage works in place of existing paved and metalled dips in mile 39 of Kurla-Vihigaon Road .. Rs. 6,768
6. Constructing cross drainage works in miles 28/3 and 32/5 of Thana-Bhiwandi section .. Rs. 26,938
7. Constructing bridges, etc. on 13 dips in miles 40 to 58 on Bhiwandi-Vihigaon Section Rs. 21,364

Bandra-Ghodbunder Road.

8. Providing 2″ Asphalt Macadam to miles 7 to 10 on the section from Andheri to Malad .. Rs. 15,671

Thana Division.

G. P. Z. P. 1933.

RATNAGIRI DIVISION.

A MASONRY BRIDGE OVER THE MUCHKUNDI RIVER NEAR WAKED IN MILE 20 OF PALI-PHONDA ROAD.

Up-stream of Bridge having 6 spans of 30′ each.

Estimated cost Rs. 1,04,029.

April 1932.

Commenced in January, 1930.—Completed October, 1931.

Up to-date expenditure Rs. 1,01,760.

G. P. Z. P. 1933.

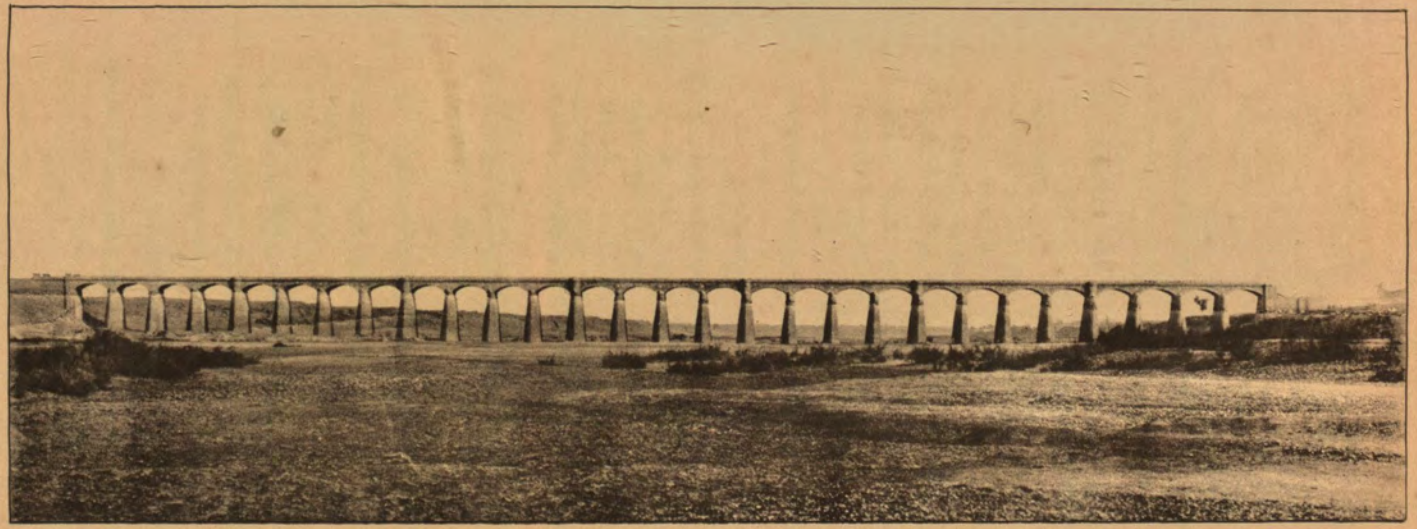
BRIDGE OVER THE RIVER TAPTI AT GIDHAD SITE ON BOMBAY AGRA ROAD

Main Bridge.

(Showing details of abutment, Return walls etc. on Agra side.) View from Upstream side.

Date of photograph	20-5-1932.
Date of commencement of work... ...	January 1926.
Estimated cost of work	Rs. 15,59,449.
Total expenditure to 31st March 1932 ...	Rs. 13,99,314.

Work in progress.



G. P. Z. P. 1933

BRIDGE OVER THE RIVER TAPTI AT GIDHAD SITE ON BOMBAY AGRA ROAD

Main Bridge.

(General Panoramic view of the whole bridge.) View from Upstream side.

Date of photograph	25-5-1932.
Date of commencement of work... ...	January 1926.
Estimated cost of work	Rs. 15,59,449.
Total expenditure to 31st March 1932 ...	Rs. 13,99,314.

Work in progress.

Bombay-Ahmedabad-Rajputana Road.

9.	Constructing a link road from Damanganga to Vapi (2 miles) on Talasari-Vapi Section .. Rs. 206	Surat and Broach Division.
10.	Improving Sabargaon-Surat Section .. .. Rs. 47,194	
11.	Improving miles 4 to 9/6 of Matwad-Navsari Section .. Rs. 11,910	
12.	Diversion round Pardi on Vapi-Bulsar Section .. .. Rs. 216	
13.	Causeway over the Kharera river in mile No. 11 of Bulsar-Chikhli Section .. Rs. 13,521	
14.	Causeway over the Kolak river on Bulsar-Chikhli Section Rs. 19,562	
15.	Constructing bridges, etc. on 12 Nallas on Surat-Sahol Section.. Rs. 25,431	
16.	Metalling and improving Viramgaon-Mandal Section .. Rs. 31,469	Ahmedabad Division.
17.	Improving Nadiad-Kaira Section .. .. Rs. 1,305	Kaira and Panch Mahals Division.

Bombay-Poona-Bangalore Road.

18.	Making improvements to low-lying miles 75 to 84 on Poona side of Khandala on Khandala-Poona Section .. .. Rs. 63,920	Poona Division.
19.	Resurfacing with asphalt, the approach portion to Poona, 5 miles on each side on Bombay-Poona Section Rs. 22,629	
20.	Asphalting the road between Hubli and Bhairidevarkoppa .. Rs. 22,994	Dharwar Division.

Karwar-Bellary Road.

21.	Reconstruction of mile 103 of the road .. .. Rs. 12,135	Dharwar Division.

Sholapur-Bijapur-Hubli Road.

22.	Causeway over the Benni Nalla between Navalgund and Nargund Rs. 10,496	Dharwar Division.

Bombay-Konkan-Goa Road.

23.	Masonry drains with Reinforced Cement Concrete Slabs on 146 Nallas on Vadkal-Mahad and Mahad-Poladpur Sections .. .. Rs. 59,982	Ratnagiri Division.

Bombay-Konkan-Goa Road—contd.

24.	Raising road between Dharamtar and Dasgaon on Vadkal-Mahad Section (easing the gradient and widening the curves in Sukeli Khind) Rs. 10,016	Ratnagiri Division.
25.	Bridge on Gad river near Kankavli on the Section from Phonda to border of Ratnagiri near Kankavli Rs. 11,943	
26.	Bridge on Kapsi Nalla in mile 40 on Poladpur-Ḥatkhamba Section .. .. Rs. 19,385	
27.	One culvert and 15 slab drains on the section from Phonda to border of Ratnagiri near Kankavli. Rs. 18,940	
28.	Bridge over the Janoli river in Malwan-Phonda Section .. Rs. 8,428	
29.	Two masonry culverts on Rajapur-Phonda Section miles 35/8 and 36/2 of Pali-Phonda Section .. Rs. 9,779	
30.	Constructing 3 masonry bridges over the Linga, Ratambi and Umreth nallas in miles 29 to 38 over Malwan-Phonda Section .. .. Rs. 36,880	Ratnagiri and Belgaum Divisions.
31.	Constructing two small bridges on Asurda and Savarda nallas on Hatkhamba-Poladpur Section Rs. 22,965	

Ratnagiri-Kolhapur-Miraj-Bijapur Road.

32.	Strengthening and repairing the bridge over the Krishna at Udgaon on Umba-Udgaon Section Rs. 4,999	Belgaum Division.

Karwar-Bellary Road.

33.	Improving Karwar-Bellary Road (miles 1 to 75) .. Rs. 30,935	Kanara Division.

Kumta-Hubli Road.

34.	Improvements to Kumta-Hubli Road .. .. Rs. 9,451	Kanara Division.

Dhulia-Bhusaval-Edlabad-Nagpur Road.

35.	Bridge between Bhusaval and Varangaon on Bhusaval-Edlabad Section .. .. Rs. 28,241	Khandesh Division.
36.	Linking road connecting Warangaon-Edlabad and Edlabad-Chikhli Roads on Edlabad Nagpur Section .. .. Rs. 7,569	Khandesh Division.

Karachi-Hyderabad-Rohri Punjab Road (East Road).

37.	Reconstructing the edges of Karachi-Malir Road Section I miles 4/6 to 9/0 .. .. Rs. 25,142	Karachi Buildings Division.
38.	Provision of roadway in the Kotri Bridge Project on Kotri-Hyderabad Section .. .. Rs. 3,95,047	

Kotri-Dadu-Shikarpur-Baluchistan Road (West Road).

39.	Brick-Paving the Shikarpur Section in a width of 12 feet and surfacing it with a 2 inches thick carpet of sand and bitumen on Shikarpur-Jacobabad Nasirabad Section .. .. Rs. 62,006	Begari Canals Division.

Experimental works.

40.	Providing tar and mexphalt surface on Nasik Station Road .. .. Rs. 1,142	Nasik Division.
41.	Providing a cement concrete surface on Nasik Road .. Rs. 11,775	

Arboriculture.

Nurseries were maintained at various places and planting, watering and protection of road side trees continued to receive careful attention. About 23,740 trees were planted during the year along the Provincial and Local Fund roads in charge of this Department.

E—Miscellaneous.

Under this head the expenditure incurred was as follows :—

	Rs.
On works	11,54,126
On repairs	3,45,669
Total.	14,99,795

Public Health, Water Supply, Drainage and Boring Works.

During the year under report designs and specifications were prepared for pumping plants at Bijapur, Sholapur, Pandharpur, Karad, Shikarpur and Poona. Detailed working drawings of the layout of pumping machinery were prepared for the pumping stations at Poona and Kirkee. The erections and final tests of the pumping machinery were carried out at the Poona Cantonment Water Works, Hyderabad Water Works, Poona Drainage—Low Level Pumping Station and the Sholapur Water Supply. The erection work of the machinery at Poona Cantonment and

Hyderabad Water Works was carried out departmentally. The water-works pumping machinery at Karad, Matheran, Uran, Dharwar Head Quarters Police Lines, Pandharpur and Shingnapur were inspected and tests carried out of the same. Periodical records of the fuel consumption and of the work done by the Municipal Pumping machinery at several towns were called for and scrutinized with a view to economy. Forty-one steam road rollers, one portable and two locomotive engines were inspected and reports made as to the necessary repairs to them.

Improvements to water supply schemes at Poona Cantonment, Kirkee, Jacobabad, Hyderabad, Ahmedabad, Kapadwanj, Surat, Jalgaon, Nandurbar, Matheran, Thana, Nasik, Trimbak, Alandi, Sholapur, Vita and Ratnagiri were carried out during the year.

Maintenance and repairs works of the Poona Cantonment, Kirkee, Satara Cantonment, Karad and Pandharpur Water Works as also of the Sewage Pumping Station at Poona were carried out during the year. Improvements to drainage works at Shikarpur, Kapadwanj, Dhulia, Nasik Road Central Prison, Pandharpur, Belgaum, Gadag Bettigeri and Poona were undertaken during the year under report.

The boring machinery and stores having been transferred to Dapuri, a number of works of shallow boring and testing of bores were carried out at Dapuri.

F—Technical Papers.

The following seven Public Works Department Technical Papers were issued during the year :—

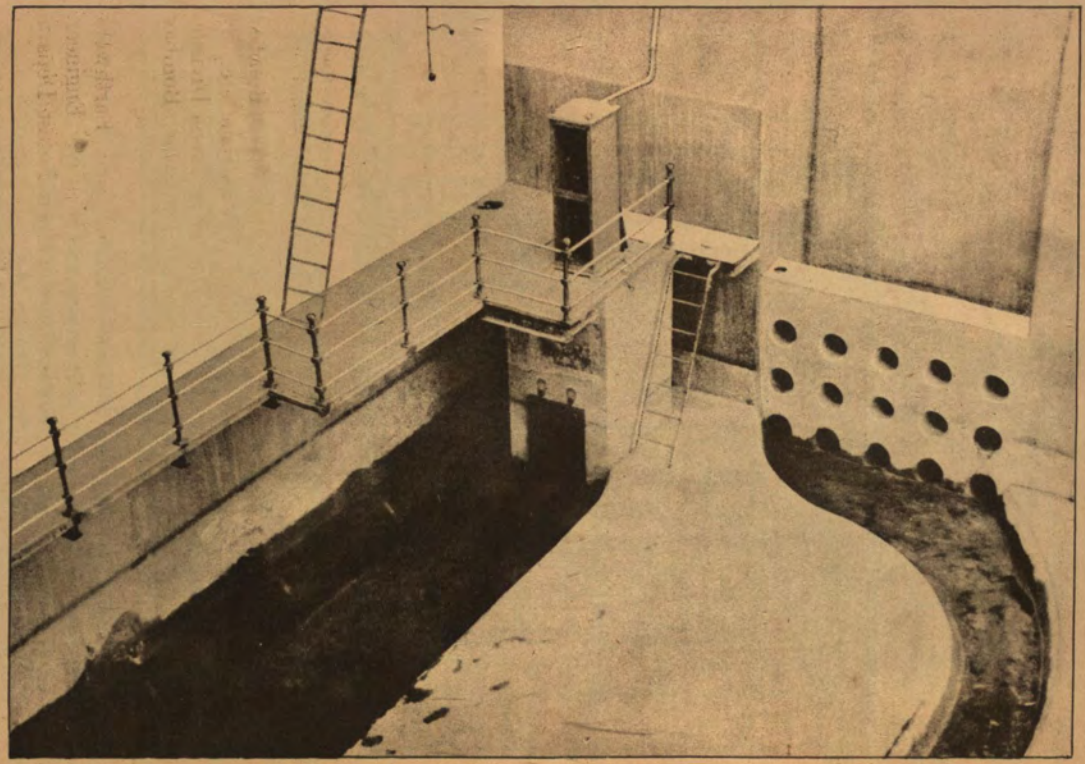
No. 35. Report on the installation and testing of various types of radial gates on the 84th mile Jamrao Canal by C. G. Hawes, M.C., B.Sc. (Lon.), A.C.G.I., M.Inst.C.E., Executive Engineer, Central Designs Division.

No. 36. Note on road construction in the Nili Bar Colony, Punjab, by H. B. Parikh, L.C.E., M.I.E. (Ind.), Executive Engineer on Special Duty, Sind Roads, including summaries of important details.

No. 37. Standard Type Buildings for the Forest Department, Bombay Presidency—Abstract estimates, block plans, specifications, etc., by T. S. Pipe, B.Sc., M.Inst.C.E., Executive Engineer, Poona Division (formerly Superintending Engineer, Forest Department, Bombay Presidency).

No. 38. Standard Forest Roads—Cross Sections and Earthwork Tables by T. S. Pipe, B.Sc., M.Inst.C.E., Executive Engineer, Poona Division (formerly Superintending Engineer, Forest Department, Bombay Presidency).

No. 39. Note on the resurfacing of the Nasik Station Road with various asphalts, cement macadam and cement concrete by L. E. Greening, A.M.Inst.C.E., M.Ind.Struct.E., Executive Engineer, Nasik Division.



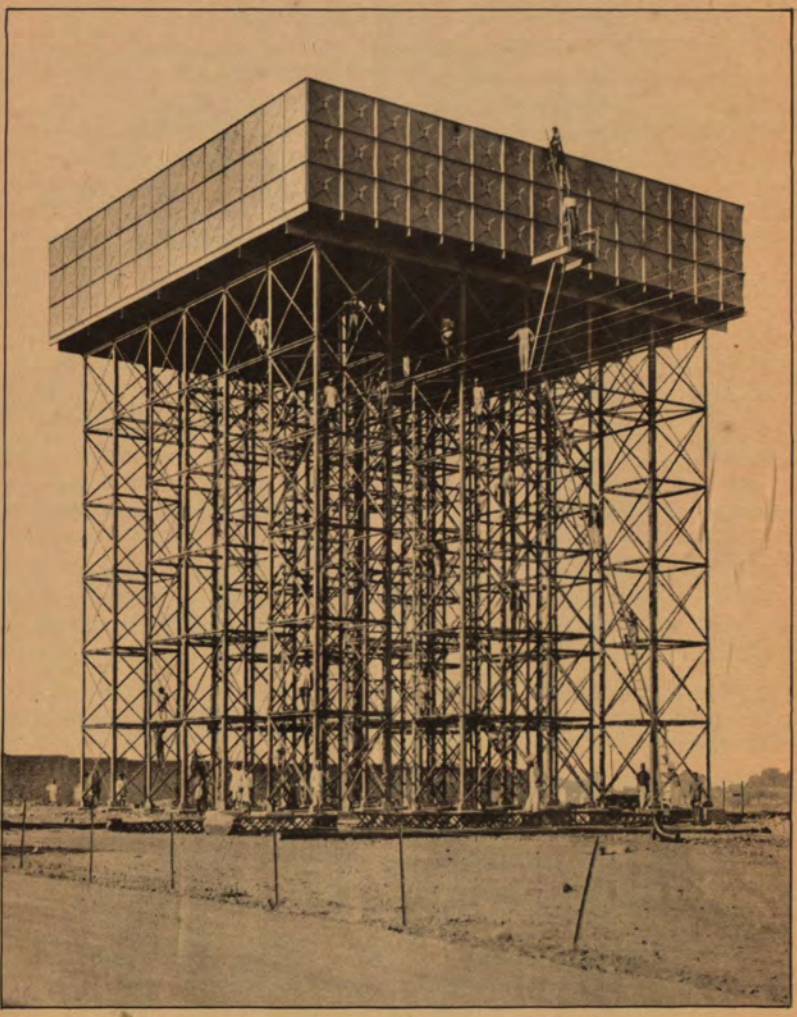
G. P. Z. P. 1933

POONA DRAINAGE IMPROVEMENT SCHEME.

Low Level Pumping Station.

Sump Tank Bed.

View of Baffle Wall and Float Switch Gears.



G. P. Z. P. 1933.

POONA WATER WORKS DIVISION.

Improvements to Kirkee Water supply.

Elevated Steel Reservoir, Capacity 2,50,000 Gallons.

Date of Photo: ... 3rd February 1932. F.S.L. 70 feet above ground level.
Date of commencement of work... ... 24th December 1931.
Estimated cost ... ... Rs. 55,000.
Total expenditure to end of March 1932 Rs. 51,727/11/0.

Work completed.

No. 40. Note on cement concrete roads in the United Provinces and on the financial aspects of cement concrete and asphalt surfaces by T. C. Kantawala, L.C.E., M.R.San.I., Special Officer, Road Development Schemes.

No. 41. Note on boring operations in the Bombay Presidency by A. P. Maddocks, B.Sc., M.Inst.C.E., Superintending Engineer, Public Health, Bombay.

No. 42. Notes on (1) Flumed Aqueducts, (2) Remodelling an existing Canal or Distributary to pass an increased discharge, (3) Afflux caused by heading up water at regulators of a Canal and the extent of backwater and (4) Distribution of velocities in channels by C. C. Inglis, B.A., B.A.I., M.Inst.C.E., Superintending Engineer, Irrigation Development and Research Circle.

G—Railways.

The Railway lines in the Bombay Presidency are not administered by the Bombay Government but are under the direct control of the Railway Board. The Railway Board has also control over the railway lines in the Indian States within the Presidency.

The general economic depression in this country and abroad has been responsible for heavy fall in the earnings so that the loss on railways in India for the year has been estimated at 9½ crores and the deficit for the next year (1932-33) at Rs. 7½ crores. In consequence the sum allotted for the construction of new railway lines is reduced to Rs. 1 crore which will nearly enable all the lines under construction to be completed. Unfortunately this Presidency has no share in the allotment of this sum.

The total length of railways open for traffic during the year under report including Sind was 5,945·752 miles inclusive of the length of 138·61 miles newly opened for traffic, viz. :—

(1) Tando-Adam-Nawabshah-Section (south loop) of the Sind Left Bank Feeder Railways. Length 53·80 miles, broad gauge.

(2) Tharushah-Sakrand Section (chord line) of the Sind Left Bank Feeder Railways. Length 66·06 miles, broad gauge.

(Both these sections were opened for traffic on 10th December 1931.)

(3) Jhagadia-Netrang Branch of the Rajpipla State Railway. Length 18¾ miles, 2′–6″ gauge. Opened for traffic on 1st March 1932. There were no new lines under construction during the year.

Surveys for the following lines were completed :—

(1) Bombay-Sind Connection, broad gauge, 268 miles.

(2) Sind Right Bank Feeders, Broad gauge, 135 miles.

(3) Tando Mahomed Khan-Moghalbin (including Badin-Jungshahi), broad gauge, 72 miles.

(4) Pandharpur-Lonand Extension, narrow gauge.

H—Development Schemes.

Back Bay Reclamation Scheme.

Original works.—No materials for filling were brought during 1931-32 by trains. About 18 acres of the recreation ground in block No. 1 were turfed and grassed. The work of dry filling in block No. 2 was completed in June 1931 and 59,235 tons of murum which were stacked in that block were spread departmentally at a cost of Rs. 11,587-0-0 or at an average rate of Re. 0-3-2 per ton. Building debris and other suitable dry filling materials aggregating about 55,000 cft. which were offered free at certain accessible points in the reclamation area were deposited in block No. 7 at an average cost of Re. 0-13-8 per 100 cft. The construction of the parapet wall along the sea wall in blocks Nos. 1 and 2 as per revised design was completed to a total length of 6,308 Rft. in May 1931 at a cost of Rs. 1,43,958. The length of the wall completed during the year was 1,174 Rft. at a cost of Rs. 35,699. The work of providing steps at chainage 380 of the New Sea Wall for providing access to the sea for Hindu mourners was started in November 1931 and completed in March 1932. The work of providing a thicker apron of big boulders for the Rubble Mound of the New Sea Wall at Marine Lines between chainages 1,000 to 2,000 was started departmentally in January 1932 and about 2,450 tons of boulders costing Rs. 9,910 were conveyed to the site up to the end of March 1932. The work is in progress.

2. *Repairs and maintenance.*—Expenditure on repairs and maintenance of the buildings, roads, etc. at Kandivli and Marine Lines amounted to Rs. 4,929. Several temporary structures at Charni Road and Kandivli which were no longer required were disposed of during the year. A sum of Rs. 17,803 was expended on the repairs and maintenance to the New Sea Wall and Rubble Mound. The damage caused to the Rubble Mound during the last monsoon was repaired. The expenditure on the maintenance of the surplus plant and machinery amounted to Rs. 4,594.

3. *Disposal of surplus stores and plant.*—Some minor dredging craft, rolling stock and miscellaneous articles of surplus stores and plant were sold. The total realisations during the year amounted to Rs. 1,32,753.

4. *Sanitation and anti-malarial measures.*—These works were carried out during the year at a cost of Rs. 3,091. In accordance with the recommendations of the Sanitary Committee, Back Bay Reclamation Scheme, steps were taken to drain off the accumulated water from block No. 7 and the central groove on the sea wall. The key holes in the sea wall were filled with lime concrete. Steps were also taken to remove the growth of mangroves in blocks 4, 5 and 6. A list of the members of the Sanitary Committee and of the standing Advisory Committee for the Back Bay Reclamation Scheme for the year 1931-32 will be found in Appendices VI and VII.

Suburban Schemes.

5. *Railway Schemes.*—During the year under report tenders were invited for the working of the Central Salsette Tramway. Only one tender was received and it was rejected by Government. Three locomotives pertaining to the Tramway were sold during the year.

6. *Water Supply Schemes.*—The Salsette and Ambernath Water Supply Schemes which were in charge of the Executive Engineer, Thana Division, were transferred to the Public Health Branch with effect from the 1st November 1931. Extensions of pipe lines for supply of water in Khar were laid during the year at a cost of Rs. 3,672. The expenditure on repairs and maintenance of the Water Supply Schemes amounted to Rs. 2,55,320. The total receipts realised during the year amounted to Rs. 4,61,863.

Ambernath Electric Supply Scheme.

7. With effect from the 1st November 1931 the generation of electricity at the power house at Ambernath was discontinued and arrangements were made with Messrs. Tatas for the supply of energy required by Government for the working of the Ambernath Water Supply Scheme and for distribution to consumers at Ambernath. The plant which became surplus due to the closing of the power house was disposed of. The receipts and expenditure on the scheme amounted to Rs. 29,764 and Rs. 18,155, respectively.

Civil Aviation.

8. The work of preparing a landing ground at Juhu which was commenced during 1930-31 on behalf of the Government of India is in progress. The expenditure incurred on the project during the year amounted to Rs. 2,69,930.

APPENDIX "I".

Statement showing the expenditure on Civil and Military Works during the year 1931–32.

Service Head	Original works		Repairs		Total	
	Grant	Outlay	Grant	Outlay	Grant	Outlay
1	2	3	4	5	6	7
50—*Military Works.*	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Works	..	..	7,970	7,821	7,970	7,821
Establishment—Non-voted ..	..	..	..	..	1,923	713
Establishment—Voted	..	..	..	..	....	2,469
Tools and Plant ..	..	..	..	..	260	130
Suspense ..	..	..	..	..	....	....
Total, Military Works.	..	..	7,970	7,821	10,153	11,133
41—*Civil Works—Central*						
Buildings—Non-voted	36,292	35,063	40,559	40,094	76,851	75,157
Buildings—Voted ..	22,813	20,295	2,19,699	2,01,628	2,42,512	2,21,923
Communications—Non-voted ..	..	..	..	..	....	....
Miscellaneous—Voted.	..	..	3,760	3,750	3,760	3,750
Establishment—Voted	..	..	..	..	59,612	67,199
Establishment—Non-voted	..	..	..	..	18,848	24,748
Tools and Plant—Non-voted ..	..	..	..	..	2,118	412
Tools and Plant—Voted	..	..	..	..	7,625	2,610
Grant-in-aid—Non-voted	..	..	..	..	3,997	3,353
Suspense—Non-voted.	..	..	..	..	....	....
Suspense—Voted ..	..	..	..	..	....	....
Deduct—English cost of stores and establishment—Non-voted ..	..	..	..	..	....	....
Loss or Gain by Exchange—Non-voted	..	..	..	..	....	....
Expenditure in England—Non-voted ..	..	..	..	..	....	....
Total, 41—Civil Works—Central ..	59,105	55,358	2,64,018	2,45,472	4,15,323	3,99,152
41—*Civil Works—Provincial.*						
Buildings—Reserved .	25,000	24,950	2,21,760	2,14,898	2,46,760	2,39,848
Buildings—Transferred.	5,93,046	5,62,455	46,37,875	13,34,741	52,30,921	18,97,196
Communications ..	14,96,932	13,86,593	..	32,80,516	14,96,932	46,67,109
Miscellaneous ..	..	402	..	22,617	....	23,019
Carried over ..	..	..	..	..	....	....

Service Head	Original Works		Repairs		Total	
	Grant	Outlay	Grant	Outlay	Grant	Outlay
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Brought forward ..	..	..	..	..	....	....
41—*Civil Works—Provincial*—contd.						
Establishment—Reserved—Non-voted ..	..	..	..	..	....	25,690
Voted	..	..	..	..	72,000	72,526
Establishment—Transferred—Non-voted ..	..	..	..	..	12,86,536	5,86,394
Voted	..	..	..	..	35,73,148	19,08,494
Tools and Plant—Reserved ..	..	..	..	..	9,000	5,265
Transferred ..	..	..	..	..	1,58,088	1,58,843
Grant-in-aid ..	..	..	..	..	11,22,068	11,18,199
Suspense ..	..	..	..	..	3,822	−36,462
Deduct—English Cost of Stores and Establishment—Stores—Transferred.	..	..	..	..	−16,000	−15,923
Establishment—Transferred—Non-voted ..	..	..	..	..	−2,19,800	−2,22,719
Voted	..	..	..	..	−16,800	−7,754
Loss or Gain by exchange Stores ..	..	..	..	..	....	96
Loss or Gain by Establishment—Non-voted	..	..	..	..	....	1,334
Loss or Gain by Establishment—Voted ..	..	..	..	..	....	13
Expenditure in England Stores ..	..	..	..	..	16,000	15,827
Expenditure on Establishment—Non-voted.	..	..	..	..	....	2,21,385
Expenditure on Establishment—Voted ..	..	..	..	..	....	7,741
Total, 41—Civil Works—Provincial.	21,14,978	19,74,400	48,59,635	48,52,772	1,29,62,675	1,06,66,121
60—*Civil Works.*						
Buildings ..	5,58,112	−64,279	..	..	5,58,112	−64,279
Communications ..	2,97,496	2,96,021	..	..	2,97,496	2,96,021
Miscellaneous—						
Establishment—Non-voted ..	..	..	..	..	....	47,304
Establishment—Voted	..	..	..	..	6,180	1,85,625
Tools and Plant ..	..	..	..	..	1,000	7,155
Total, 60—Civil Works	8,55,608	2,31,742	..	..	8,62,788	4,71,826
District Local Fund ..	..	..	..	..	....	12,197
Deposit contribution ..	..	..	..	..	....	2,19,482
Grand Total ..	30,29,691	22,61,500	51,31,623	51,06,065	1,42,50,939	1,17,79,911

R. V. TRIVEDI,
Deputy Accountant General.

APPENDIX

Statement of Roads not within Municipal boundaries, giving the Public Works and Local Authorities

Name of Circle	Name of Division	Length of metalled roads maintained by the Public Works Department	Length of unmetalled roads maintained by the Public Works Department
1	2	3	4
Presidency Proper.		Miles.	Miles.
Northern Circle	Thana	(*a*) 450·19	8·12
	Surat	(*e*) 172·60	(*e*) 18·73
	Broach	53·98	....
	Kaira	180·71	9·12
	Panch Mahals	156·29	17·50
	Ahmedabad	(*m*) 143·64	(*m*) 58·16
	Total, Northern Circle ..	1,157·41	111·63
Central Circle ..	Poona	(*n*) 199·29	(*o*) 2·63
	Satara	(*p*) 406·50	38·81
	Sholapur	(*r*) 397·05	68·75
	Nasik	(*t*) 477·49	9·20
	Khandesh	(*w*) 663·14	(*x*) 15·75
	Total, Central Circle ..	2,143·47	135·14

Note.—The lengths of Provincial roads included in columns 3 and 4 of the above statement are exclusive required to contribute towards the maintenance of Provincial roads passing through their limits and the

(*a*) The increase in column 3 is due partly to the construction of approaches to the Kashell bridges on Development Department maintained during the year.
(*b*) The increase in column 5 is due partly to certain unmetalled lengths of roads having been metalled the year.
(*c*) The increase in column 6 is due to the inclusion of certain new lengths of unmetalled roads con
(*d*) The decrease in column 9 is due partly to the deprovincialisation of a portion of the old Bombay-Engineer.
(*e*) The increase in column 3 and the decrease in column 4 are due partly to certain unmetalled length Mandvi and Madhi Buhari Roads found incorrect on fresh survey by the Executive Engineer during
(*f*) The decrease in column 5 is due to the conversion of certain lengths of Olpad-Karanj Road and
(*g*) The increase in column 6 is due partly to the reason given in (*f*) above and partly to the inclusion
(*h*) The increase in column 5 and the decrease in column 6 are due to certain unmetalled length of
(*i*) The increase in column 5 is due to the conversion of certain unmetalled lengths into metalled lengths
(*j*) The increase in column 6 is due to the inclusion of certain unmetalled lengths of roads constructed
(*k*) The decrease in column 5 is due to handing over of a certain length of Jhalod-Kasba Road to the
(*l*) The increase in column 6 is due to the inclusion of certain length of a new road, viz. Baska-Khando
(*m*) The increase in column 3 and the decrease in column 4 are due partly to certain portions of Executive Engineer in his previous statements having now been adjusted correctly.
(*n*) The increases in columns 3 and 9 are mainly due to the transfer of certain lengths of roads from
(*o*) The increase in column 4 is due to the transfer of approach road leading from Bombay-Poona
(*p*) The decreases in columns 3 and 9 are due to the transfer of certain roads to Poona, Mutha Canals
(*q*) The increase in columns 5 and 6 are due to the addition of certain roads taken over from the Forest
(*r*) The increase in column 3 and the decrease in column 9 are due to the adoption of correct lengths.
(*s*) The increase in column 5 and the decrease in column 6 are due to the length of unmetalled roads
(*t*) The increase in column 3 is due to the transfer of a portion of Malegaon-Chalisgaon Road from the.
(*u*) The increases in columns 5 and 6 are due to the correct lengths of existing roads as now communicat
(*v*) The increase in column 9 is due to the addition of Vetal branch road recently taken over from the
(*w*) The decrease in column 3 is partly due to the transfer of portion of Malegaon-Chalisgaon Road to the 1931–32 and also due to the adoption of correct lengths.
(*x*) The increases in columns 4 and 9 are due to the adoption of correct lengths.
(*y*) The increases in columns 5 and 6 are due to the correct lengths of existing roads as now communi

II.

lengths of metalled and unmetalled roads maintained by during the year 1931-32.

Length of metalled roads maintained by the Local Authorities	Length of unmetalled roads maintained by the Local Authorities	Total length of metalled roads	Total length of unmetalled roads	Remarks	
				Metalled roads maintained by the Public Works Department in Municipal limits	Unmetalled roads maintained by the Public Works Department in Municipal limits
5	6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
(*b*) 366·84	(*c*) 88·75	317·03	90·87	(*d*) 23·04	....
(*f*) 130·56	(*g*) 294·85	308·16	313·58	....	....
(*h*) 34·84	(*k*) 164·56	88·82	164·56	1·36	....
(*i*) 54·11	(*j*) 15·74	234·82	24·86	10·61	....
(*k*) 20·72	(*l*) 24·80	177·01	42·30	1·37	....
59·14	268·04	202·78	326·20	....	....
666·21	856·74	1,823·62	908·37	36·38	....
222·86	1,400·14	422·15	1,402·77	(*n*) 50·71	....
(*q*) 330·31	(*q*) 1,208·31	736·81	1,247·12	(*p*) 2·75	....
(*s*) 164·16	(*s*) 473·48	561·21	542·23	(*r*) 23·31	....
(*u*) 177·62	(*u*) 1,291·59	655·11	1,300·79	(*v*) 14·78	0·30
(*y*) 294·64	(*y*) 302·39	957·78	318·14	(*x*) 27·75	0·75
1,189·59	4,675·91	3,333·06	4,811·05	119·30	1·05

ct portions passing through Municipal limits. The Municipalities in the Bombay Presidency are not now
lengths of these are shown in the " remarks " column.

the Bombay-Agra Road and partly to the inclusion of certain small lengths of roads pertaining to the

during the year and partly to the inclusion of certain new lengths constructed by the Board during

structed by the Board during the year.
Agra Road and partly to the adjustment of certain length found incorrect on fresh survey by the Executive

of Surat-Sabargam Road having been metalled and partly to the adjustment of certain lengths of Madhi
the year.
Sarbhon-Purna Road into unmetalled lengths by the Board during the year.
of certain length of unmetalled roads newly constructed by the Board during the year.
Amod-Paloj Road having been metalled by the Board during the year.
by the Board during the year.
by the Board during the year.
Village Panchayat, Jhaiod, for maintenance by the District Local Board during the year.
wadi Road taken up for maintenance by the Board during the year.
unmetalled roads having been metalled and partly to certain lengths of roads shown erroneously by the

Satara and Mutha Canals Divisions and also due to adoption of correct lengths.
Road to Karla Caves from metalled to unmetalled roads.
and Nira Left Bank Canal Divisions.
Department.

metalled during the year.
Khandesh Division.
ed by the President, District Local Board, Nasik.
Nasik Municipality.
Nasik Division and partly due to an addition of the portion of Shahada Taloda Road completed during

cated by the District Local Boards, East and West Khandesh Districts.

APPENDIX

Name of Circle	Name of Division	Length of metalled roads maintained by the Public Works Department	Length of unmetalled roads maintained by the Public Works Department
1	2	3	4
Presidency Proper—contd.		Miles.	Miles.
Southern Circle	Belgaum	(z) 620·79	(a1) 95·83
	Dharwar	(a3) 549·76	(a4) 99·07
	Ratnagiri	467·76	....
	Kanara	(a6) 386·18	194·08
	Total, Southern Circle ..	2,024·49	388·98
Deccan Irrigation Circle ..	Mutha Canals	121·78	....
	Ahmednagar	298·77	57·58
	Nasik Irrigation	47·00	....
	Total, Deccan Irrigation Circle ..	467·55	57·58
Irrigation Development and Research Circle.	Nira Left Bank Canal ..	87·21	....
	Total, Irrigation Development and Research Circle ..	87·21	....
	Total for Presidency Proper ..	5,880·13	693·33
Sind.			
Northern Sind Circle ..	Shikarpur Canals	21·21	2·18
	North-Western Canal ..	.....	....
	Begarj Canals	....	30·50
	Khirtar	....	97·10
	Total, Northern Sind Circle ..	21·21	129·78

(z) The net decrease is due partly to the adoption of correct lengths and partly to the addition of certain previously outside the Municipal limits but now falls within the Municipal jurisdiction.
(a1) The increase is due partly to the adoption of correct lengths and partly due to the fact that certain "unmetalled".
(a2) The slight increase is due to the roads in and out of the Municipal jurisdiction having now been
(a3) The decrease is due to the transfer of certain lengths of roads to the Kanara Division.
(a4) The very slight increase is due to the adoption of actual length.
(a5) The very slight decrease is due to the reason mentioned in (a4) above.
(a6) The increase is due to the transfer of certain lengths of roads from the Kanara Division.
(a7) The net increase is due mainly to the addition of certain lengths of roads newly opened for traffic metalled during the year by the District Local Board, Belgaum.
(a8) The net increase is due partly to the addition of certain lengths of murum roads newly constructed deduction of certain lengths of unmetalled roads having been metalled during the year by the District
(a9) The decrease is due to the redistribution of Local Board roads according to the jurisdictions of by the Local Bodies after actual verification.
(a10) The increase is partly due to the addition of certain lengths of murum roads newly constructed actually found on verification.
(a11) The increase is due to the addition of certain lengths of unmetalled roads metalled during the
(a12) The net increase is due partly to the taking over by the District Local Board, Ratnagiri, of certain metalled during the year.

II—*contd.*

Length of metalled roads maintained by the Local Authorities	Length of unmetalled roads maintained by the Local Authorities	Total length of metalled roads	Total length of unmetalled roads	Remarks	
				Metalled roads maintained by the Public Works Department in Municipal limits	Unmetalled roads maintained by the Public Works Department in Municipal limits
5	6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
(*a*7) 302·36	(*a*8) 430·64	923·15	526·47	(*a*2) 19·81	....
(*a*9) 576·23	(*a*10) 350·01	1,125·99	449·08	19·95	(*a*5) 4·49
(*a*11) 355·26	(*a*12) 901·68	823·02	901·68	14·00	.....
81·50	447·77	467·68	641·85	19·77	3·83
1,315·35	2,130·10	3,339·84	2,519·08	73·53	8·32
....	....	121·78	....	2·00	....
432·65	319·60	731·42	377·27	6·32	....
....	....	47·00	....	....	....
432·65	319·69	900·20	377·27	8·32	....
·78	....	87·99	....	....	....
·78	....	87·99	....	....	....
3,604·58	7,982·44	9,484·71	8,657·77	237·58	9·37
10·54	1,009·83	31·75	1,012·01	30·00	....
....	148·25	....	148·25	....	....
....	1,098·25	....	1,128·75	....	....
....	66·50	....	163·60	....	....
10·54	2,322·83	31·75	2,452·61	30·00	....

length of the Bijapur-Shindgi Road and deduction of a portion of the Bijapur-Kagwad Road which was portions of roads which were previously shown through error as metalled are now correctly shown as correctly fixed.

by the District Local Board, Ratnagiri, and also due to certain lengths of unmetalled roads having been and opened for traffic by the District Local Boards, Belgaum and Ratnagiri, during the year, partly to the Local Board, Belgaum, and partly to the adoption of correct lengths.
the Public Works Department Divisions as also to changes in the lengths of certain roads as reported by the District Local Boards, Belgaum and Bijapur, and partly due to the adoption of correct lengths as year by the District Local Board, Ratnagiri.
new unmetalled roads constructed by the villagers and partly to certain unmetalled roads having been

APPENDIX

Name of Circle	Name of Division	Length of metalled roads maintained by the Public Works Department	Length of unmetalled roads maintained by the Public Works Department
1	2	3	4
Sind—contd.		Miles.	Miles.
Southern Sind Circle ..	Karachi Buildings	29·50	88·50
	Karachi Canals	18·50	4·57
	Fuleli Canals	3·50	56·45
	Rohri Canal No. V	....	21·00
	Rohri Canal No. VI ..	2·37	16·00
	Total, Southern Sind Circle ...	53·87	186·52
Western Sind Circle	....	12·81	16·62
	Total, Western Sind Circle ..	12·81	16·62
Rohri Canal Circle	....	10·38	163·13
	Total, Rohri Canal Circle ..	10·38	163·13
Eastern Sind Circle	Northern Jamrao	....	....
	Southern Jamrao	....	....
	Khipro	....	37·00
	Mithrao	....	23·00
	Total, Eastern Sind Circle ..	....	60·00
	Total for Sind ..	98·27	556·05
	Grand Total ..	5,978·40	1,249·38

II—*concld.*

Length of metalled roads maintained by the Local Authorities	Length of unmetalled roads maintained by the Local Authorities	Total length of metalled roads	Total length of unmetalled roads	Remarks	
				Metalled roads maintained by the Public Works Department in Municipal limits	Unmetalled roads maintained by the Public Works Department in Municipal limits
5	6	7	8	9	10
Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
9·37	176·50	38·87	265·00	....	....
6·50	986·50	25·00	991·07	....	....
4·62	768·37	8·12	824·82	....	....
13·00	234·00	13·00	255·00	....	....
2·50	298·12	4·87	314·12	....	....
35·99	2,463·49	89·86	2,650·01	....	....
13·25	1,923·38	26·06	1,940·00	....	....
13·25	1,923·38	26·06	1,940·00	....	....
6·62	792·00	17·00	955·13	....	....
6·62	792·00	17·00	955·13	....	....
14·50	254·25	14·50	254·25	....	....
12·00	255·64	12·00	255·64	....	....
....	2,136·00	....	2,173·00	....	....
1·50	276·50	1·50	299·50	....	....
28·00	2,922·39	28·00	2,982·39	....	....
94·40	10,424·09	192·67	10,980·14	....	....
3,698·98	18,406·53	9,677·38	19,655·91	237·53	9·37

APPENDIX

Statement showing the expenditure on Provincial Buildings and

1	1921-22		1922-23	
	41-C.W. Provincial. 2	60-C.W. 3	41-C.W. Provincial. 4	60-C.W. 5
	Rs.	Rs.	Rs.	Rs.
(i) Expenditure on buildings for original works in the Presidency proper	70,17,468	....	18,40,250	21,36,237
(ii) Do. do. Sind ..	12,90,750	....	2,77,527	7,11,895
	83,08,218		21,17,777	28,48,132
(iii) Expenditure on buildings for maintenance in the Presidency proper	11,03,937	....	13,79,087	....
(iv) Do. do. Sind ..	1,64,210	....	1,51,421	....
	12,68,147		15,30,508	
(v) Expenditure on metalled Provincial roads for original works in the Presidency proper.	19,39,046	....	15,22,488	6,94,035
(vi) Do. do. Sind ..	42,695	....	98,466	....
	19,81,741		16,20,954	6,94,035
(vii) Expenditure on unmetalled Provincial roads for original works in the Presidency proper	5,00,155	....	97,110	20,903
(viii) Do. do. Sind ..	....	....	....	....
	5,00,155		97,110	20,903
(ix) Expenditure on metalled Provincial roads for maintenance in the Presidency proper	19,85,510	....	24,27,684	....
(x) Do. do. Sind ..	32,825	....	17,889	....
	20,18,335		24,45,573	
(xi) Expenditure on unmetalled Provincial roads for maintenance in the Presidency proper	2,53,711	....	2,35,632	....
(xii) Do. do. Sind ..	95,939	....	1,27,690	....
	3,49,650		3,63,322	

III.

Roads in the Presidency Proper and in Sind from 1921-22 to 1931-32.

1923–24		1924–25		1925–26		1926–27	
41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial.	60-C.W.	41-C.W. Provincial	60-C.W.
6	7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
12,74,148	46,74,102	11,72,871	36,09,799	12,24,807	38,98,209	22,22,421	17,71,645
1,70,426	5,52,140	3,18,186	8,82,055	4,53,035	13,10,549	7,27,916	7,15,071
14,44,574	52,26,242	14,91,057	44,91,854	16,77,842	52,08,758	29,50,337	24,86,716
15,99,041	..	14,69,217	..	15,22,903	....	15,95,217	..
1,78,426	..	1,91,990	..	1,74,310	....	2,06,962	..
17,77,467		16,61,207		16,97,213		18,02,179	
10,92,068	4,54,014	5,36,719	24,18,810	8,30,136	11,41,309	11,19,552	4,09,202
73,471	..	26,685	1,39,015	—102	30,035	11,759	99,541
11,65,539	4,54,014	5,63,404	25,57,825	8,30,034	11,71,344	11,31,311	5,08,742
72,046	20,943	63,591	1,14,266	1,36,210	33,048	2,50,893	..
170	..	..	..	13,043	20,788	661	..
72,216	20,943	63,591	1,14,266	1,49,253	53,836	2,51,554	
26,69,387	..	27,73,938	..	28,80,514	....	30,98,552	..
16,291	..	13,996	..	24,444	....	78,629	..
26,85,678		27,87,934		29,04,958		31,77,181	
2,83,378	..	2,81,022	..	2,53,438	....	2,55,920	..
1,36,482	..	1,30,644	..	1,31,892	....	89,724	..
4,19,860		4,11,666		3,85,330		3,45 644	

1	1927-28		1928-29	
	41-C.W. Provincial. 14	60-C.W. 15	41-C.W. Provincial 16	60-C.W. 17
	Rs.	Rs.	Rs.	Rs.
(i) Expenditure on buildings for original works in the Presidency proper	9,72,027	13,90,972	9,61,174	19,07,442
(ii) Do. do. Sind ..	3,47,891	3,70,005	2,44,881	3,69,562
	13,19,918	17,60,977	12,06,055	22,77,004
(iii) Expenditure on buildings for maintenance in the Presidency proper ..	17,04,033	....	16,43,248	....
(iv) Do. do. Sind ..	2,46,822	....	2,07,847	....
	19,50,855		18,51,095	
(v) Expenditure on metalled Provincial roads for original works in the Presidency proper.	7,95,102	5,26,052	7,40,068	5,52,195
(vi) Do. do. Sind ..	81,725	1,74,995	98,454	1,75,326
	8,76,827	7,01,047	8,38,522	7,17,521
(vii) Expenditure on unmetalled Provincial roads for original works in the Presidency proper	1,65,007	....	1,05,960	....
(viii) Do. do. Sind ..	12,313	....	9,172	....
	1,77,320		1,15,132	
(ix) Expenditure on metalled Provincial roads for maintenance in the Presidency proper..	32,12,327	.....	30,99,797	....
(x) Do. do. Sind ..	57,076	....	65,888	....
	32,69,403		31,65,680	
(xi) Expenditure on unmetalled Provincial roads for maintenance in the Presidency proper	2,82,958	....	2,67,776	....
(xii) Do. do. Sind ..	1,52,444	....	1,26,654	....
	4,35,402		3,94,430	
(xiii) Expenditure from Road Development Fund in connection with Provincial roads for original works in the Presidency proper.	....	....	....	....
(xiv) Do. do. Sind ..	....	....	....	....

III—*contd.*

1929-30.		1930-31.		1931-32.	
41-C.W. Provincial	60-C.W.	41-C.W. Provincial	60-C.W.	41-C.W. Provincial	60-C.W.
18	19	20	21	22	23
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
8,88,923	22,83,762	7,15,423	4,32,192	2,38,311	20,397
3,44,517	1,40,963	2,16,733	1,22,058	3,47,375	5,20,146
12,33,440	24,24,725	9,32,156	5,54,250	5,85,686	5,40,543
15,91,742	....	15,54,193	....	13,73,726	....
2,88,022	....	2,47,047	....	1,61,565	....
18,79,764		18,01,240		15,35,291	
5,81,922	5,41,635	3,07,467	4,85,007	1,39,416	2,91,395
7,919	94,001	— 2	21,693	....	4,716
5,89,841	6,35,636	3,07,465	5,06,700	1,39,416	2,96,021
1,11,174	....	81,815	....	29,564	....
1,400	....	8,923	....	....	....
1,12,574		90,738		29,564	
30,95,981	....	29,37,136	....	28,68,480	....
96,560	....	55,688	....	61,862	....
31,92,541		29,92,824		29,30,342	
2,54,990	....	2,98,830	....	2,30,071	....
1,57,922	....	1,42,386	....	82,871	....
4,12,912		4,41,216		3,12,942	
....	....	3,00,076	....	7,35,418	....
....	....	....	....	4,82,195	....

APPENDIX

Statement showing the expenditure on District Local Board Roads in the year 1921-22

1	1921-22* 2	1922-23. 3	1923-24. 4	1924-25. 5
	Rs.	Rs.	Rs.	Rs.
(1) Expenditure on metalled District Local Board roads for original works in the Presidency proper ..	1,80,641	2,11,788	2,45,635	1,85,618
(2) Expenditure on metalled District Local Board roads for original works in Sind	16,103	5,039	14,611	10,279
	1,96,744	2,16,827	2,60,246	1,95,897
(3) Expenditure on unmetalled District Local Board roads for original works in the Presidency proper ..	1,00,724†	94,250	1,28,734	1,17,791
(4) Expenditure on unmetalled District Local Board roads for original works in Sind	98,877	42,321	49,660	40,897
	2,59,601	1,36,571	1,78,394	1,58,688
(5) Expenditure on metalled District Local Board roads for maintenance in the Presidency proper ..	4,51,946	5,68,794	5,44,584	5,68,349
(6) Expenditure on metalled District Local Board roads for maintenance in Sind	7,455	4,924	2,901	8,951
	4,59,401	5,73,718	5,47,485	5,77,300
(7) Expenditure on unmetalled District Local Board roads for maintenance in the Presidency proper ..	5,18,795	4,55,687	5,30,217	4,92,900
(8) Expenditure on unmetalled District Local Board roads for maintenance in Sind	2,85,820	2,41,091	2,89,435	2,64,811
	8,04,615	6,96,778	8,19,652	7,57,711
(9) Expenditure on metalled and unmetalled District Local Board roads (original works and repairs) in the Ratnagiri District not included above	37,924	22,043	30,365	30,598
(10) Expenditure on metalled and unmetalled District Local Board roads (original works and repairs) in the Bijapur District not included above	..	..	..	..

* The figures in column 2 against items (1), (3), (5) and (7) do not include those

† This figure does not include the expenditure in the West Khandesh District as

IV.

Presidency proper and Sind (original works and repairs) from the to 1931-32.

1925-26. 6	1926-27. 7	1927-28. 8	1928-29. 9	1929-30. 10	1930-31. 11	1931-32. 12
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
2,22,685	2,14,017	2,98,423	3,29,532	4,11,234	3,07,573	2,69,334
73,201	1,33,542	77,391	1,54,304	76,837	49,194	45,765
2,95,886	3,47,559	3,75,814	4,83,836	4,88,071	3,56,767	3,15,099
1,78,708	2,97,654	3,18,374	2,72,491	2,02,260	2,28,956	1,86,361
78,637	92,034	85,337	40,952	21,352	39,817	18,636
2,57,340	3,89,688	4,03,711	3,13,443	2,83,612	2,68,773	2,04,997
6,21,726	7,48,360	7,59,703	8,51,468	8,73,140	9,31,651	8,81,092
3,295	2,073	5,405	12,652	36,856	50,441	11,757
6,25,021	7,50,433	7,65,108	8,64,120	9,09,996	9,82,092	8,92,849
6,36,110	6,79,365	5,91,524	4,57,202	3,51,071	4,62,352	3,36,981
4,00,788	3,88,198	4,41,126	4,57,168	4,34,781	4,44,139	3,58,065
10,36,898	10,67,563	10,32,650	9,14,370	7,85,852	9,06,491	6,95,046
46,983	36,010	38,379	41,785	57,594	....	....
....	....	....	....	92,233	....	....

for the Sholapur District as the Commissioner reports that they are not available.
the Commissioner reports that the information is not available.

APPENDIX

Statement showing expenditure on establishment in the Roads and Buildings and percentage on the total outlay on works and

Year	Expenditure on Establishment in the Roads and Buildings Branch						
	41—Civil Works—Provincial (Transferred and Reserved)	60—Civil Works	41—Civil Works—Central	50—Military Works	Deposit Works	Total	Percentage on the total outlay on works and repairs in the Roads and Buildings Branch
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1921-22 ..	29,06,955	..	1,98,683	45,258	2,84,992	34,35,888	19·26
1922-23 ..	20,14,640	8,34,450	1,78,103	71,481	77,143	31,75,877	20·79
1923-24 ..	15,84,488	8,10,645	67,892	38,560	6,88,354	31,89,939	19·88
1924-25 ..	16,89,892	12,25,632	1,19,721	27,862	2,52,556	33,15,663	19·67
1925-26 ..	18,89,417	12,05,078	1,01,876	69,049	2,58,535	35,23,955	20·66
1926-27 ..	25,30,286	5,97,486	1,68,896	5,882	3,94,389	36,96,939	23·76
1927-28 ..	21,99,448	5,59,107	1,49,132	5,042	2,97,270	32,09,999	24·96
1928-29 ..	22,40,393	6,56,713	2,29,540	2,240	2,56,180	33,85,066	25·03
1929-30 ..	22,45,450	7,33,867	1,56,773	3,638	2,34,897	33,74,625	25·26
1930-31 ..	25,51,711	1,80,139	1,72,103	2,415	85,444	29,91,872	32·35
1931-32 ..	25,93,104	2,32,929	1,22,799	3,182	44,132	29,96,146	38·70

NOTE.—The percentage of the establishment charges on the cost of works and repairs in the (column 8). The reason is largely that the establishment charges in the Irrigation Branch include certain canal systems in Sind and the Deccan which has no connection with the execution of works spent on revenue management including the *control and distribution of water*, which is debited in the ment charges debited in the accounts to "revenue management" are deducted from the total cost so divergent. The increase in the rate per cent. in the R. & B. Branch is mainly due to decrease in which expenditure on works is reduced. A more overall percentage on expenditure on works is

V.

the Irrigation Branches of the P. W. D. from the year 1921–22 to 1931–32 and repairs during that period in both the Branches.

Expenditure on Establishment in the Irrigation Branch						Total Establishment charges in the Roads and Buildings and Irrigation Branches	Percentage on the total outlay of works and repairs in Roads and Buildings and Irrigation Branches
55—Construction of Irrigation, Navigation, Embankment and Drainage Works	XIII-Works for which capital accounts are kept	15—Other Revenue Expenditure financed from Ordinary Revenues	Deposit Works	Total establishment charges	Percentage on the total outlay on works and repairs in the Irrigation Branch		
9	10	11	12	13	14	15	16
Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	
11,53,734	13,85,960	6,08,651	2,770	32,11,115	33·59	66,47,003	24·26
14,20,751	13,44,901	5,34,327	1,993	33,01,972	32·22	64,77,849	25·38
21,87,793	14,43,222	4,32,013	2,056	40,65,084	33·89	72,55,023	25·87
29,10,785	17,37,724	5,26,361	492	51,75,362	28·73	84,91,025	24·35
32,21,647	17,99,343	5,19,228	2,681	55,42,899	21·62	90,66,854	21·28
35,56,959	18,08,385	5,94,980	3,207	59,63,540	30·56	96,60,479	27·54
36,96,956	19,20,773	7,80,312	3,847	64,03,888	26·00	96,13,887	25·64
39,04,670	21,35,939	6,16,601	2,750	66,59,960	25·51	1,00,45,026	25·35
42,26,873	21,08,302	6,18,312	1,012	69,54,499	23·26	1,03,29,124	23·88
42,88,966	18,31,149	5,90,621	1,734	67,21,470	21·00	97,13,342	24·06
40,37,972	16,34,011	5,18,627	86	61,90,696	22·40	91,86,842	25·97

Irrigation Branch (column 14) is generally higher than that in the Roads and Buildings Branch the cost of Special Revenue Establishment employed entirely on "revenue management" work on and repairs, and that these charges also include cost of part of the time of Irrigation establishment accounts to "revenue management" and not to execution of works and repairs. If these establish- of establishment in the Irrigation Branch the percentage on the cost of works and repairs will not be outlay on "works" and "repairs". Establishment charges cannot be reduced in the same ratio in inaccurate.

APPENDIX VI.

List of the members of the Sanitary Committee, Back Bay Reclamation, for the year 1931-32.

1. Sir Nasarvanji H. Choksy, Kt., C.I.E., M.D. (*Chairman*).
2. The Deputy Assistant Director of Hygiene, Bombay District.
3. The Director, Haffkine Institute, Bombay.
4. The Health Officer of the Port of Bombay.
5. Dr. Sorab C. Hormusjee, M.D., D.P.H.
6. Dr. P. A. Dalal, L.M. & S., D.T.M. & H.
7. Lt.-Col. R. Row, O.B.E., M.D.
8. Dr. H. M. Masina, F.R.C.S.
9. Dr. R. K. Mhatre, L.M. & S., D.P.H., D.T.M.
10. Dr. J. S. Nerurker, B.Sc., L.M. & S., D.P.H. (*Honorary Secretary*).

APPENDIX VII.

List of members of the Standing Advisory Committee for the Back Bay Reclamation Scheme for the year 1931-32.

	Name of Member.	Constituency.
1.	Sir Joseph Kay, Kt. (*Chairman*)	The Bombay Chamber of Commerce.
2.	Mr. Manu Subedar.	Indian Merchants' Chamber.
3.	Mr. J. B. Petit, M.L.C.	Millowners' Association, Bombay.
4.	Mr. Hooseinbhoy A. Lalljee.	The Bombay Municipal Corporation.
5.	Mr. G. E. Bennett, M.Sc., M.Inst.C.E., Chief Engineer, Bombay Port Trust.	Nominated by Government.
6.	Mr. T. K. Roddan, City Engineer, Bombay Municipality.	
7.	Mr. F. H. Taylor, F.S.I., M.R.S.I., Manager, Land and Bunders, Bombay Port Trust.	
8.	Mr. K. S. Framji, C.I.E.	

BOMBAY: PRINTED AT THE GOVERNMENT CENTRAL PRESS.

Digitized with financial assistance from the Government of Maharashtra on 22 July, 2017

BOMBAY PRESIDENCY

PUBLIC WORKS DEPARTMENT DIVISION MAP

1931-32

Scale—105 Miles to 1 Inch

SECRETARY AND JOINT SECRETARY TO GOVERNMENT
CHIEF ENGINEER IN SIND
SUPERINTENDING ENGINEER
EXECUTIVE ENGINEER
SUPERVISING ARCHITECT
CHIEF ENGINEER
SUPERINTENDING ENGINEER
EXECUTIVE ENGINEER
SUPERVISING ENGINEER
EXECUTIVE ENGINEER
SUPERINTEND